THE LANCET.

No. 4221. Vol. CLXVII. LONDON, SATURDAY, JULY 23, 1904. [Pp. 120+48.

CONTENTS.

THE CROONIAN LECTURES
on Bright's Disease and its Varieties. Delivered before the Royal College of Physicians of London on June 7th, 9th, 14th, and 16th, 1904, by JOHN ROSE BRADFORD, M.D., D.Sc. Lond., F.R.S., Fellow of the College; Professor of the Principles and Practice of Medicine, University College; Physician to University College Hospital, London. — Lecture II. 191

ORIGINAL ARTICLES.

Post-graduate Demonstration on Rheumatoid Arthritis. By CHARLES J. MACALISTER, M.D. Edin., M.R.C.P. Lond., Lecturer on Clinical Medicine, University of Liverpool; Physician to the Liverpool Royal Southern Hospital and to the Country Hospital for Children, &c. 194

110 Cases of Total Enucleation of the Prostate for Radical Cure of Enlargement of that Organ. By P. J. FREYER, M.A., M.D., M.Ch., Surgeon to King Edward VII.'s Hospital for Officers and to St. Peter's Hospital for Stone and other Urinary Diseases, London.—(*Illustrated*) 197

The Method of Closing an Abdominal Wound. By JOHN D. MALCOLM, M.B., F.R.C.S. Edin., Surgeon to the Samaritan Free Hospital 203

On the Education of Visual Centres. By W. HAMILTON HALL, L.R.C.P. Lond., M.R.C.S. Eng. 205

The Radical Cure of Umbilical Hernia. By B. G. A. MOYNIHAN, M.S. Lond., F.R.C.S. Eng., Senior Assistant Surgeon to the Leeds General Infirmary. — (*Illustrated*) 206

A Case of Excision of the Cæcum; Recovery. By J. B. FOOTNER, F.R.C.S. Eng., Senior Surgeon, Tunbridge Wells General Hospital 208

Post-diphtheritic Chronic Bulbar Paralysis. By WILFRED HARRIS, M.D. Cantab., M.R.C.P. Lond., Physician to Out-patients, Hospital for Epilepsy and Paralysis, Maida Vale, &c. 209

Case of Wilful Introduction of Foreign Bodies into the Œsophagus; Death. By J. H. TARGETT, M.S. Lond., F.R.C.S. Eng., Obstetric Surgeon, Guy's Hospital, &c.; and STANLEY B. ATKINSON, M.A. Cantab., M.B., B.Sc. Lond., Barrister-at-Law, of the Inner Temple 210

The Use of Phenylhydrazin in the Clinical Examination of Urine. By W. H. WILLCOX, M.D., B.Sc. Lond., F.I.C., D.P.H., Lecturer on Pathological Chemistry and Medical Registrar, St. Mary's Hospital 211

One Form of Suppurative Appendicitis. By ARTHUR C. ROPER, F.R.C.S. Edin., Surgeon to the Royal Devon and Exeter Hospital 212

Abdominal Pain of Intestinal Origin. By FREDERICK HOLME WIGGIN, M.D., formerly Vice-President of the American Medical Association and President of the New York State Medical Association 213

CLINICAL NOTES:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

Preliminary Note on the Development of Trypanosoma in Cultures of the Cunningham-Leishman-Donovan Bodies of Cachexial Fever and Kala-azar. By LEONARD ROGERS, M.D., M.R.C.P. Lond., Capt., I.M.S. 215

On Operation for the Relief of Bilious Vomiting following Gastro-enterostomy. By WALTER H. BROWN, F.R.C.S. Irel., M.R.C.S.—(*Illustrated*) 216

A Case of Rupture of the Bowel caused by Compressed Air. By GERALD W. STONE, M.R.C.S. Eng., L.R.C.P. Lond. 216

A MIRROR OF HOSPITAL PRACTICE.

SHEFFIELD ROYAL HOSPITAL:
A Fatal Case of Chronic Interstitial Nephritis in a Girl eight years old with Marked Hæmorrhagic Symptoms. (Under the care of Dr. Arthur Hall) 217

MEDICAL SOCIETIES.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN:
Exhibition of Cases 219

EDINBURGH OBSTETRICAL SOCIETY:
Use and Abuse of the Midwifery Forceps 219

DERMATOLOGICAL SOCIETY OF LONDON:
Exhibition of Cases 220

BRITISH GYNÆCOLOGICAL SOCIETY:
Accessory Fallopian Tubes and their Relation to Broad Ligament Cysts and Hydrosalpinx 220

REVIEWS AND NOTICES OF BOOKS.

Diseases of the Intestines and Peritoneum. By Dr. Hermann Nothnagel. Edited by Humphry D. Rolleston, M.D. Cantab., F.R.C.P. Lond. 221

Husband's Forensic Medicine, Toxicology, and Public Health. Seventh Edition, Revised and Enlarged by R. J. M. Buchanan, M.D., B.Ch. Vict., M.R.C.P. Lond., M.R.C.S. Eng.; and E. W. Hope, M.D., D.Sc. Edin. 222

A Manual of Clinical Diagnosis by Means of Microscopical and Chemical Methods. By C. E. Simon. Fifth Edition... 223

A Manual of General Pathology for Students. By Sidney H. C. Martin, M.D., F.R.C.P. Lond., F.R.S. 224

Physiologie des Menschen. By Dr. L. Luciani. Translated into German by Dr. S. Baglioni and Dr. H. Winterstein 224

The Countess of Dufferin's Fund: Nineteenth Annual Report of the National Association for Supplying Female Medical Aid to the Women of India ... 225

Swimming. By Ralph Thomas 225

Cycle and Camp. By T. H. Holding 225

An Index of Symptoms. By R. W. Leftwich, M.D. Aberd. 226

The Edinburgh Stereoscopic Atlas of Anatomy. Edited by David Waterston, M.A., M.D., F.R.C.S., F.R.S. Edin. 226

The Practitioner 226

ANALYTICAL RECORDS
FROM
THE LANCET LABORATORY.

(1) "Tabloids" Calomel and Sodium Bicarbonate and Grey Powder and Sodium Bicarbonate; (2) "Tabloids" Calcium Glycerophosphate, Iron Glycerophosphate, and Sodium Glycerophosphate; and (3) "Tabloid" Three Valerianates 226

Old Liqueur Vintage Brandy ... 226

Scotch Whisky, O.V.L. Brand... 226

Gordon's Special London Dry Gin 226

(1) Pale Ale; (2) India Pale Ale 227

Mondorf Mineral Spring Water 227

Eau Minérale Naturelle du Salet 227

Prolacto Biscuits 227

Cheltine Infant Foods 227

Nursery Milk 227

Tiolet Soaps 228

NEW INVENTIONS.

Automatic Spring Retractor for Mastoid Operations. — (*Illustrated*) 228

A New Form of Apparatus for Administering Ethyl Chloride alone or in combination with Ether.—(*Illustrated*) 228

A Set of Portable Retractors.—(*Illustrated*) 228

LEADING ARTICLES.

THE CONFERENCE OF LONDON SANITARY AUTHORITIES 230

DISPENSING BY MEDICAL MEN... 231

THE DISINTEGRATION OF THE ATOM 232

FRIED FISH AS A CAUSE OF ENTERIC FEVER 233

ANNOTATIONS.

Clift, Home, and John Hunter.. 234

Regeneration of Bone in Tritons 235

The Prevention and Treatment of Cancer 235

Prison Cleanliness 235

Meeting of the British Medical Association: the Pathological Museum 236

Antimonial and Lead Poisoning from the Use of the Linotype Machine 236

Tuberculosis (Animals) Compensation Bill 236

Poisoning by Illuminating Gas 237

The Psychology of Spiritualistic "Mediums" and the Dangers of "Mediumship" 237

The Association of Typhoid Fever and Tuberculosis 238

Rex v. Breese 238

Post-graduate Courses in Paris. 239

Society for the Study of Disease in Children 239

The Prostitution of the Post Office 239

Measures against Syphilis in Roumania 239

Factory Girls' Country Holiday Fund 240

Death of Mr. A. H. Allen, F.I.C., F.C.S. 240

Experiments on the Cooking of Meat 240

The Scandals at the Horton Lunatic Asylum 240

Post-graduate Courses in Liverpool 241

LOOKING BACK.
(From THE LANCET, Saturday, July 22, 1826.)

Sketches of the Surgical Profession in Ireland 241

PUBLIC HEALTH AND POOR LAW.

LOCAL GOVERNMENT BOARD:
Reports of Medical Officers of Health 246

VITAL STATISTICS:
Health of English Towns 246
Health of Scotch Towns 247
Health of Dublin 247
Vital Statistics of London during June, 1904 247
Analysis of Sickness and Mortality Statistics in London during June, 1904 248

SPECIAL ARTICLES.

Royal College of Surgeons of England 229

The Social and Economic Position of Medical Practice on the Continent—Austria and Germany 242

Medicine and the Law 244

Asylum Reports 244

The Services 249

Treatment of Drunkenness by Suggestion in Russia 254

Notes from India 255

Liverpool 255

Wales and Western Counties Notes 256

Ireland 256

Paris 257

Berlin 258

Switzerland 258

Australia 259

CORRESPONDENCE.

The New Sydenham Society (Mr. Jonathan Hutchinson) ... 250

Health and Education (Dr. Harry Campbell) 251

The Meeting of the British Medical Association (Mr. J. T. Rae) 251

Royal Accouchements (Dr. Edward H. Young) 251

Calculous Anuria (Dr. Barling) 251

On the Possible Local Nature of Scarlet Fever (Dr. A. Gerrard) 252

What Constitutes Live Birth? (Mr. Stanley B. Atkinson) ... 253

The White Cross League (Bishop Lucknow, Earl Roberts, and others) 253

Contagious Abortion in Cattle (Dr. Francis T. Bond, Dr. William Martin) 253

The International Congress of Dermatology (Mr. G. Pernet) 253

Laymen and Electrical Treatment 253

The Indian Medical Service 254

Thrombosis after Appendicitis... 256

Hypnotic Treatment of Morphinism 256

"Look on This Picture and on This" (Mr. Griffin Wilkes) ... 256

The Eyre Testimonial Fund (Dr. J. H. Bryant) 256

MEDICAL NEWS.

Annual Prize Distribution at St. Bartholomew's Hospital ... 245

Pass-lists of the Universities of London and Glasgow, and Conjoint Examinations in Ireland by the Royal College of Physicians and the Royal College of Surgeons 260

Society of Members of the Royal College of Surgeons of England 261

King Edward VII.'s Hospital for Officers 261

The Central Midwives Board ... 262

Westminster Hospital Medical School 262

PARLIAMENTARY INTELLIGENCE.

House of Lords 263

House of Commons 263

The Registration of Nurses 263

Appointments 265

Vacancies 265

Births, Marriages, and Deaths... 265

Notes, Short Comments, and Answers to Correspondents ... 266

Medical Diary 267

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX.

MEDICAL AND OTHER BOOKS AND PUBLICATIONS.

COVER.

ADLARD & SON— Page
British Journal of Children's Diseases 1

ARNOLD—
Hutchison .. Food 1

BAILLIERE, TINDALL & COX—
Ball ..... Diseases of the Nose, &c. 1
Campbell, H. Respiratory Exercise in Treatment of Disease.. 1
Bates ..... Hernia 1
" ..... Descended Testis 1
Fryer ..... Stricture of the Urethra 1
Kraepelin .. Clinical Psychiatry 1
Robson & Moynihan.. Diseases of the Stomach 1
Starr ..... Nervous Diseases 1
Turner, D. .. Medical Electricity, &c. 1

CHURCHILL, J. & A.—
Clouston .... Mental Diseases 1
Squire's Pocket Companion to the British Pharmacopœia 1

DAVIDSON—
Grant ..... Model Throat 1

GLAISHER—
Savill ..... Neurasthenia 1

LEWIS—
Campbell, H. Flushing, &c. 1
" Headache 1

LONGMANS, GREEN & CO.— Page
Bennett, Sir W. .... Massage, &c. 1

PENTLAND, Y. J.—
Berry..... Manual of Practical Ophthalmology 1
Bruce ..... Prescription of Treatment 1
Cunningham. Text-book of Anatomy 1
" Manual of Anatomy.... 1
Gibson & Russell.... Physical Diagnosis 1
Muir & Ritchie.... Manual of Bacteriology 1
Thomson & Miles..... Manual of Surgery 1

SAUNDERS & CO.—
Bickham's Operative Surgery 1
Stelwagon on the Skin 1

THE LANCET—
Difficulties under the Infectious Disease (Notification) Act, 1895 1

MEDICAL LIBRARIES, &c.—
Clinical Journal 1

BAILLIERE, TINDALL & COX— Page
Allingham .. Diseases of the Rectum 8
" .. Colotomy, &c. 8
" .. Operative Surgery 8
Bigg ..... Constipation 9
Latham .... Sanatorium Treatment of Tuberculosis 8
" .... Pulmonary Consumption 8
Owen..... Cleft-Palate, &c. 8

BAILLIERE—(Continued). Page
Thorne..... Nauheim Treatment.... 6
Younger .... Insanity 6

CASSELL & CO.—
Bland-Sutton Tumours 7
Bousquet .. Serums, Vaccines, and Toxines 7
Brunt ..... Materia Medica, &c. 7
Gould ..... Surgical Diagnosis 7
Herman .... Diseases of Women, &c. 7
" .... First Lines in Midwifery 7
" .... Difficult Labour 7
Hutchison & Rainy .. Clinical Methods 7
Klein & Sikes .... Elements of Histology.. 7
Manson, Sir P. Tropical Diseases 7
Marsh ..... Diseases of the Joints .. 6
Morris, H. .. Surgical Diseases of the Kidney and Ureter 7
" .. Surgery of the Kidney and Ureter 6
" .. Injuries and Diseases of Genital, &c., Organs .. 6
Morris, M. .. Diseases of the Skin 8
Savage ..... Insanity &c. 7
Treves, Sir F. Operative Surgery, &c. 7
" Intestinal Obstruction.. 7
" Surgical Anatomy..... 7
" Surgical Operations 7
" System of Surgery..... 7
Yeo ..... Mineral Springs, &c. .. 7
" ..... Food in Health, &c. 7
" ..... Medical Treatment 7

CHURCHILL, J. & A.—
Austin ..... Malignant Disease..... 6
Cripps ..... Diseases of the Rectum 6
" ..... Cancer of the Rectum .. 6
Marsh ..... Clinical Lectures and Essays 6
Squire's Pocket Companion to the British Pharmacopœia 6

CORNISH BROS. (BIRMINGHAM)— Page
Sawyer, Sir J. Practical Medicine .. 3
" Insomnia 3

KEGAN PAUL & CO.—
Taylor ..... Diseases of the Eye 3

LEWIS—
Martindale & Wynnott .. Extra Pharmacopœia .. 6

LONGMANS, GREEN & CO.—
Stevenson .. Wounds in War 7

RENSHAW—
Wood ..... Application of Trusses 9

SAUNDERS & CO.—
Bickham .... Operative Surgery..... 2
Medical Hand-Atlases 6
Stelwagon .. Diseases of the Skin.... 3

SMITH, ELDER & CO.—
Keetley .... Orthopædic Surgery.... 6
" .... Gastric Ulcers..... 9
" .... Complicated Fractures 9
Leftwich .... Index of Symptoms 7
Tirard ..... Albuminuria, &c. 7

WRIGHT & CO. (BRISTOL)—
Cartwright.. Operative and Practical Surgery 5
Dowse ..... The Pocket Therapist .. 5
" .... Massage, &c. 5
"Golden Rules" Series..... 5

MEDICAL LIBRARIES, &c.—
Rehnke—Stammering 9
Dolecoed Spa, Llanwrtyd—
Grant: Handbook to the Sulphur Baths 9

OFFICIAL AND GENERAL ANNOUNCEMENTS.

APPOINTMENTS VACANT

Ayr District Asylum 79
Bethlem Hospital 79
Brecon and Radnor Asylum, Talgarth 78
Brighton Throat and Ear Hospital.... 77
Carlisle Non-provident Dispensary .. 78
Cheltenham General Hospital 79
County Borough of South Shields .. 79
Dumfries and Galloway Royal Infirmary 78
Gordon Hospital for Fistula 77
Great Northern Central Hospital, Holloway 77
Highland and Islands of Scotland ... 79
Hospital for Sick Children, Great Ormond-street 77
Leighton Buzzard Union 78
Poplar Hospital for Accidents 77
Rotherham Hospital and Dispensary 78
Royal Albert Hospital, Devonport.... 78
Sabbatical Union 78
South Uist Parish 78
Southwark Infirmary, East Dulwich-grove 79
Stirling District Asylum 79
St. Mary's Hospital for Sick Children, Plaistow 78
Stockport Infirmary 78
Teignmouth Hospital 78
Walker, Birmingham 79
West Bromwich District Hospital 77
West Ham and East London Hospital 78
Whitehaven and West Cumberland Infirmary 78
Wolverhampton and Staffordshire General Hospital 77
Worcester General Infirmary 79

ASSISTANCIES, MEDICAL

Drury, Newcastle-on-Tyne 84
Griffith, Milford Haven 84
Mac Malcolm 84
Medicus, Gravesend 84
No. 211, L.O., Strand 84
No. 212, L.O., Strand 84
No. 213, L.O., Strand 84
No. 214, L.O., Strand 84
No. 220, L.O., Strand 84
No. 221, L.O., Strand 84
No. 223, L.O., Strand 84
No. 224, L.O., Strand 84
No. 225, L.O., Strand 84
No. 226, L.O., Strand 84
No. 227, L.O., Strand 84
No. 228, L.O., Strand 84
No. 229, L.O., Strand 84
No. 230, L.O., Strand 84
No. 231, L.O., Strand 84
No. 232, L.O., Strand 84
No. 233, L.O., Strand 84
No. 234, L.O., Strand 84
Sancaster, Strand 84
Turner, Adwick 84
Walker, Swallowfield 84
Wilson & Son, St. James's 84

ASYLUMS, HOMES, &c.

Aberystwith, the Marrics of Wales .. 76
Ashwood House, Kingswinford 78
Barrowcop Manor Hospital 69
Bethel Hall for Mental Diseases 78
Bishopstone House, Bedford 67
Buntingford House Retreat, Herts .. 76
Camberwell House, Peckham-road.... 67
Cheadle Royal, Cheadle 76
Clarence Lodge, Clapham-park 76
Copplee, The, Nottingham 69
Cotswold Sanatorium 73
Crookabury Sanatorium, Surrey 72
Dalrymple House, Rickmansworth .. 76
Dartmoor Sanatorium 71
Dennis Johns' Sanatorium, Parkstone 73
Dunmurry, Clifton 73
East Anglian Sanatorium, Nayland .. 72
Electro Medical Institute, Manchester 73
Fairford Retreat, Gloucestershire 67
Ferguson, Harley-st 73
Flaxman Lodge, &c., Norwich 73
Flower House, Catford 69
Friend, Teignmouth 73
Grove House, Church Stretton..... 69
Grove, The, Catton, Norwich 69
Hadley Open Air Sanatorium, Tyndale.. 72
Haydock Lodge, Newton-le-Willows.. 71
High Shot House, Twickenham 76
Hitch, Mrs., Hollington 69
Inverraith Lodge Retreat, Colinsburgh 73
Lady Superintendent, Streatham 76
Lawson, Nordrach on-Dee, Banchory 72
Leysin, Switzerland 73
London Open - Air Sanatorium, Wokingham 73
Maternity Home, New King's-road .. 76
Melbourne House, Leicester 69
Middleton Hall, Co. Durham 76
Moat House, Tamworth 69
Moorcote, Bramley 75
Nordrach in Wales 71
Nordrach-upon-Mendip Sanatorium .. 72
Northlands Retreat, Wandsworth 77
Northumberland House, Finsbury-pk.. 70
Northwoods House, Winterbourne..... 71
No. 150, L.O., Strand 75
No. 1-0, L.O., Strand 75
No. 1-1, L.O., Strand 76
Ockl. Hills Sanatorium 75
Overdale, Whitefield 75
Pakfield, Burgess-hill 75
Plas-y-Dinas, Merioneth shire 70
Plympton House, South Devon 69
Rostrevor Open-air Sanatorium 71
Saltburn-by-the-Sea, Yorkshire 76
Shaftesbury House, Formby 71
Sidlaw Sanatorium, Auchterhouse .. 73
Small-pox, &c., Hos., south Milford.. 76
Springfield House Private Asylum, Bedford 69
St. Andrew's Hospital, Northampton 69
St. Luke's Hospital, E.C. 69
Stocker, Craven-street 75
Stone House, Canterbury 70
Stretton House, Church Stretton 69
The Silver Birches, Uxbridge 76
Thandercliffe Grange, nr. Rotherham 76
Tower House, Leicester 69
Vale of Clwyd Sanatorium..... 72
Warneford Asylum, Oxford 69
West Malling-place, Kent 75
Whitmead Sanatorium, near Farnham 72
Winchester House, Kingston-hill 70
Wonford House, Exeter 69
Wye House, Buxton 69
Wyke House, Isleworth 76
Yarrow Convalescent Home, Broadstairs..... 70

BATHS

Bridgend 77
Bad Kissingen 75
Harrogate 64
Karlsbad 77
Levico 77
Medici Hydropathic 77
Smedley's, Matlock 77

COMPANIES

Gower, Weymouth-street 85

FINANCIAL &c.

Birkbeck Bank 68
English and Scottish Law Life Office.. 68
Equitable Reversionary Interest Soc. 68

HOMES &c., WANTED

We 218, L.O., Strand 66
X. Y., Pothertin-road 76

HOTELS

Bad Nauheim—
Sprengel's Park Hotel 62
Barnes Court Hotel, New Milton 64
Ilfracombe—Ilfracombe Hotel..... 64
Lake Hotel, Llangammarch Wells 63
Montreux Hotel and Chalets, Belmont 64
Port Grotava—Regina Grand Hotel .. 63

HOUSE & ESTATE AGENTS

Bedford & Co., Wigmore-street 81
Hampton & Sons, Cockspur-street.... 85
Watton & Lee, Mount street 80, 85
Watt, Donald & Co., Dundee..... 80

LIFE & FIRE ASSURANCES

General Life Assurance Co. 68
Medical Provident Institution 66
Prudential 68

MEDICAL ACCOUNTANTS &c.

Turner 83

MEDICAL AGENTS

Hall & Hardwicke 79
Lee & Martin..... 79
London Medical Agency 80
Manchester Medical Agency 80
Medical Agency 81
Needes, Herbert 81
Needes, J. C. 79
Partridge, Provident Institution 80
Peacock & Hadley 81
Scholastic, Clerical, &c., Assoc. 82
Turner 83
Wilson & Son 81

MEDICAL SCHOOLS (LONDON)

Cooke's School of Anatomy 64
Guy's Hospital Medical School 63
London Hospital Medical College 63
St. Thomas's Hospital 63
West London Post-graduate College.. 64

MEDICAL SCHOOLS (PROVINCIAL)

Queen's College, Cork 65
University of Birmingham 64

NURSING INSTITUTES

Clapham Maternity Hospital..... 61
Clapton Nursing Home 6
General Nursing Association 6
Hos. for Sick Children, Gt. Ormond-st. 64
Leeds Trained Nurses' Institution 67
London Nurses' Association 64
Male and Female Nurses Assoc. 67
Male Nurses' Association 67
Male Nurses' Co-operation 67
Middlesex Hos. Trained Nurses' Inst. 66
Mildmay Nursing Institute 67
Nurses' Co-operation, Portland-place 61
Queen Charlotte's Lying-in Hos..... 67
St. John's House 67
Temperance Mal-ad Female Nurses' Co-operation 66
Temperance Male Nurses' Co-operation 67

OFFICIAL NOTICES

College of Preceptors 64
King's College, London 64
Naval Medical Examination 63
New Sydenham Society 64
Royal (Dick) Veterinary College, Edinburgh 61
Royal London Ophthalmic Hospital.. 64
Sanitary Assurance Association 64
University College, London 63
University of Durham 63
University of Liverpool 63

PARTNERSHIPS & PRACTICES

Hall & Hardwicke, Strand 83
Moevin, Dartmouth 83
Holding, Aldchurch 83
no. 172, L.O., Strand 83
No. 199, L.O., Strand 83
No. 205, L.O., Strand 75
No. 209, L.O., Strand 84
No. 210, L.O., Strand 83
No. 214, L.O., Strand 83
No. 217, L.O., Strand 83
No. 219, L.O., Strand 83
No. 238, L.O., Strand 83
No. 234, L.O., Strand 83
No. 236, L.O., Strand 83
No. 239, L.O., Strand 83
No. 241, L.O., Strand 83
No. 242, L.O., Strand 84
Stereomasia, Birmingham 83
Stocker, Craven-street 83

RAILWAY & STEAMSHIP CO.'S

Albion S.S. Co.—Norway Cruise 66
Great Eastern Railway—
Cheapest Continental Holiday 66
New Zealand Shipping Co..... 64
Orient-Pacific Line Pleasure Cruises.. 61

SCHOOLS, PREPARATORY, &c.

Manchester Physical Training College 61
School Ship Conway 64

TUTORS & LECTURERS

Fellowships .. 65 | No. 209, L.O. .. 84
Gooch ..... 65 | No. 222, L.O. .. 66
Keetley ..... 65 | No. 224, L.O. .. 66
Knight ..... 65 | Van Praagh.... 65
Lane & Pratt .. 65 | Weymouth 64

(For Index to Trade and Miscellaneous Advertisements see page 7.)

The Croonian Lectures

ON

BRIGHT'S DISEASE AND ITS VARIETIES.

Delivered before the Royal College of Physicians of London on June 7th, 9th, 14th, and 16th, 1904,

BY JOHN ROSE BRADFORD, M.D., D.Sc. LOND., F.R.S.,

FELLOW OF THE COLLEGE; PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE, UNIVERSITY COLLEGE; PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL, LONDON.

LECTURE II.[1]

Delivered on June 9th.

THE ACTION OF TOXIC AGENTS ON THE KIDNEY.

MR. PRESIDENT AND GENTLEMEN,—The progress of medicine has in some respects in recent years simplified our conceptions of the etiology of disease or, at any rate, has in many instances made our knowledge more definite by enlarging the range of action of parasites and of toxic agents generally and there is an increasing tendency to look upon diseases as depending directly or indirectly on the action of toxins. Physical agents, however, are still recognised causes of a few maladies.

The main problem in the present day in relation to the etiology of renal disease and more especially of that of Bright's disease is the attempt to determine to what extent physical agents or toxic agents respectively are to be looked upon as the actual causative agents. Amongst physical agents cold is, of course, the one to which the greatest importance has been attached in the etiology of inflammatory diseases of the kidney and many writers would go so far as to assert that this is the most effective agent in the production of some of the more important varieties of renal disease. The toxic agents may, if the word be used widely, be held to include, firstly, the action of toxic substances present in the blood as a result of their ingestion through the alimentary canal. Secondly, the toxic substances elaborated by the activity of micro-organisms producing pathological lesions in some other part of the body than the kidney. In these cases the toxic products would be absorbed in the blood stream and would produce their deleterious action as a result either of their presence in the blood or else as a result of their action on the kidney in the course of their excretion. In many instances of this mode of infection the urine not only contains the products of the activity of the pathogenic microbes but as is well known, this fluid will also contain the organisms themselves and in some instances their lodgment in the kidney may be the actual cause of a morbid process affecting this organ. In the third place the question presents itself as to whether toxins may be elaborated as a result of disordered metabolic processes or disordered cell activities, the subsequent excretion of these toxins producing the renal disease. In other words, toxic substances may be absorbed by the body as such or produced in the body by the activity of micro-organisms or possibly elaborated in the body as the result of disordered metabolism. It must, however, at the outset be admitted that our knowledge with reference to the last group does not rest on so secure a basis as our knowledge with reference to the others does. A considerable amount of knowledge has been accumulated from the experimental side with reference to the action of toxins on the kidney and it will be convenient to discuss this shortly before dealing with the purely clinical aspects of the problem of the etiology of renal disease.

As has already been mentioned, experimental methods give no support to the view that the exposure of the surface of the body to cold produces any immediate and measurable effect on the renal circulation. At the same time too much stress must not be laid on negative results of this kind. But one may perhaps be justified in assuming that it is probable that the supposed action of cold in the production of acute inflammatory diseases of the kidney is more likely to be an indirect than a direct one. Pneumonia is, perhaps, the disease in which the relation of the morbid process to cold is most direct and here there can be little doubt that the real action of cold is not a direct one but an indirect one producing such changes in the organism as enable the infecting agent—the pneumococcus—to produce effects which prior to the action of cold it was unable to do. It is not that the progress of knowledge has in any way vitiated the older conclusions established by the study of the natural history of disease that pneumonia follows exposure to cold but rather that it has explained this association or has rendered an explanation at any rate possible. It is very probable that the action of cold in the production of renal disease is a similar one to that seen in the production of pneumonia, only unfortunately in the case of renal disease the supposed toxic agent is not known with the definiteness that obtains in the case of pneumonia.

The number of toxic substances which either in the laboratory or in the human subject are capable of producing renal lesions is very large and it has long been known that workers in various occupations were liable to suffer from renal disease. This, perhaps, is specially marked in the case of the heavy metals and more especially of course with lead and mercury. Other toxic agents derived from the vegetable kingdom are well known, such as turpentine, and also such substances as abrin and ricin. Another great group of renal poisons is derived from the animal kingdom, such as cantharidin and the blood of certain fish, especially that of the eel. Finally, in the last few years a number of renal poisons obtained from certain cells of the body and known as cytotoxins have been separated. Thus the number of substances having a definite toxic effect on the renal structures is very large quite apart from the great group of toxins produced by the action of micro-organisms and of which the bacillus pyocyaneus is one of the earliest and leading examples. In addition to all these toxic substances it would seem that there might be others of still more complex origin, as it is well known that the removal of the thyroid body in carnivorous animals is followed by the production of a very notable albuminuria, so that presumably after this operation there is present in the blood a toxic agent of some kind; and facts such as these should incline us to remember that possibly ductless glands may, in addition to their other functions, destroy or render inert toxic bodies possibly normally present in the blood stream. The discovery of a large number of bodies capable of producing toxic lesions in the kidney is of interest from several points of view, but more especially as it affords a means of investigating some, at any rate, of the lesions that are associated with Bright's disease and nephriti and also affords a possibility of clearing up some of the disputed points as regards not only the incidence but also the interpretation of the nature of these lesions. It is not only possible to enumerate a number of bodies producing toxic effects on the kidney, but these toxic actions may be classified according to the extent and also according to the nature of the lesion produced, as it would seem that many renal poisons have a differential or even a selective action on the kidney structures.

Lindemann has conducted a number of observations with reference to the action of toxic substances on the kidney and according to him three groups of renal poisons may be recognised. Cantharidin is a typical representative member of the first group, the action of which is characterised mainly by the production of intense lesions in the glomeruli and possibly in the interstitial tissue, to which the term glomerulo-nephritis has been applied. The metallic salts and the oxides of the heavy metals form the second group and their characteristic action is to produce a coagulating process in the cells of the convoluted tubules. Chromic acid and the bichromates also have a similar action to that produced by the heavy metals and this substance affords one of the most ready means of experimenting in the laboratory with regard to these effects, although it is not so important from the point of view of medicine as the action of the heavy metals. The third group of renal poisons consists of certain animal and vegetable toxic bodies, such as the venom of poisonous serpents, abrin, ricin, blood of the eel, &c. These organic poisons produce by their action a degeneration of the epithelial cells of the kidney, the protoplasm becoming vacuolated and showing marked signs of degeneration. The point of distinction between the results produced by the poisons of the third group and those of the heavy metals lies in the fact that as the result of the action of the latter the nuclei disappear along with the necrotic changes produced, whereas the complex organic poisons although producing marked degeneration of the renal

[1] Lecture I. was published in THE LANCET of July 16th, 1904, p. 125.

cells do not lead to the disappearance of the nuclei. The most remarkable results obtained by Lindemann, however, were those he observed as a result of the action of the organic substance vinylamine, a substituted ammonia and a primary amine of vinylic alcohol. This substance produces marked effects on the glomeruli and on the epithelium of the convoluted tubules but it is of interest that the straight tubules do not present any marked change. The capsules of Bowman become filled with epithelial masses and the protoplasm of the cells of the convoluted tubules loses to a great extent its characteristic structure, the cells becoming vacuolated and assuming an irregular shape. The nuclei, however, undergo no change. If larger doses are administered and the toxic action is more prolonged the glomerulo-nephritis becomes more intense and the tubules are filled with cellular detritus forming granular masses that are passed in the urine. Casts are found in great abundance both in the straight tubules and also in the convoluted. Some of the microscopical appearances suggest that the protoplasm of the renal cells is undergoing progressive solution and so passing into the urine. Lindemann did not find any marked changes in the interstitial tissue even where the action of the poison had been prolonged. In the early stages of the action of vinylamine the quantity of urine is diminished in amount and is dilute in character; it contains albumin together with an abundant deposit of granular casts and leucocytes and small quantities of blood. As the action of the poison becomes more marked the quantity of urine diminishes and complete anuria may be present before death. The local action on the kidney and the changes in the urine are accompanied by very great wasting and this is necessarily best seen in those cases where the action has been more prolonged. As much as from 40 to 45 per cent. of the body weight may be lost notwithstanding that the appetite is not lost and in these respects Lindemann's results are somewhat similar to those observed by myself as a result of the removal of large quantities of the kidney substance. The action of vinylamine on the kidney closely resembles that seen as a result of disease and also that produced experimentally by bacterial toxins and by other animal and vegetable poisons. It resembles somewhat the action of cantharides in that it produces a marked degree of glomerulo-nephritis.

Lindemann not only carried out a series of observations on the toxic action of the definite substances we have considered but in addition to these he also experimented on the subject of nephrotoxins and this branch of the subject is of sufficient importance for it to be considered shortly. It has long been known that the injection into one animal of blood serum derived from another species was capable of causing an albuminuria of greater or less amount. Bernard, for instance, observed that the serum of dogs injected into rabbits caused albuminuria. Experiments of this nature at one time led to the view that Bright's disease was primarily a disease of the blood and might be due to the presence in the blood of some anomalous proteid substance and that the changes in the kidney were entirely secondary to the action of some such body. It was soon found, however, that the proteid matter in the urine of Bright's disease was essentially similar to that present in the blood and in the experimental cases it was not the foreign constituent that was introduced that was simply excreted but rather that it damaged the renal filter and so led to the excretion of the normal proteids of the blood. The degree of toxicity of different blood sera for any given animal varies but in the case of the rabbit it is said that the most toxic sera are those of the cat and the guinea-pig. Weiss claimed that the injection of the serum of these animals into the rabbit may not only be followed by the production of albuminuria but that death not uncommonly followed. Lindemann, however, considered that the blood of another species only acted as a renal poison in exceptional instances and that in order for it invariably to produce these effects it was necessary for it to contain a nephrotoxin and that this was readily produced by preparing the animal previously by the injection of renal extract. Lindemann injected guinea-pigs for a few weeks with an emulsion of the kidney of rabbits and he states that in these circumstances the serum of the guinea-pig so treated acquires marked and special toxic properties. Doses of from one to two and a half cubic centimetres per kilogramme of rabbit not only cause albuminuria in the rabbit but bring about death from uræmia on from the third to the fifth day. On the other hand, the serum of normal guinea-pigs, according to Lindemann, only causes a transitory albuminuria even in doses of eight cubic centimetres per kilogramme. Lindemann not only found this serum toxic but he states that it has a profound action on the renal structures, causing necrosis and great disintegration of the epithelium of the convoluted tubules. These observations are of great interest as regards pathology and from several standpoints. Firstly, they would seem to show that very minute quantities of special toxic substances are capable of producing very marked changes in the renal structures. This, however, is of quite secondary importance and interest compared to the fact, if it be a fact, that the living organism is capable of elaborating, as a sequel to the introduction of cell elements into the blood, a substance capable of producing profound destructive changes on those very cells, and one of the first questions that presents itself is as to the specific character, if any, of those nephrotoxins. The injection of the rabbit's kidney into the guinea-pig is followed by the elaboration in the guinea-pig of a substance having a destructive action on the rabbit's kidney. Is this substance elaborated specific as regards the kind of tissue—viz., the kidney—or is it specific in its action as regards the kind of organism—viz., the rabbit? If the former, these observations might be of great value and of interest as regards the pathology of renal disease; if the latter they are still of interest but not of the same practical importance.

The existence of nephrotoxins has been asserted on the basis of the results following (1) the injection of the renal substance of one species into an animal of the same or different species; (2) the injection into a certain species A of the blood stream of another species B, B having previously received numerous injections of an extract of the kidney of A; and (3) the injection of the blood derived from an animal in which the ureter has been ligatured into another animal, the supposition being that in these circumstances the blood of the first animal would contain the nephrotoxic substances absorbed by the damaged kidney. Albarran and Bernard have reinvestigated the subject and conducted experiments in all these three directions. All observers are agreed that the kidney substance possesses a high degree of toxicity. Thus the injection of the renal extract of guinea-pigs into rabbits always produces very marked effects; albuminuria ensues together with changes in the renal epithelium, the tubules lose their characteristic rod-like structure, and the protoplasm seems to undergo solution. And it is of considerable interest that the renal lesions are not uniformly distributed and that in some parts the kidney substance remains unaltered. These two authors consider that the injection of an extract equivalent to both kidneys causes death in three days and they go so far as to assert that renal extract instead of being beneficial will actually bring about death earlier if injected into animals after the excision of either one or of both kidneys. They state that after unilateral nephrectomy a smaller quantity of renal extract is necessary in order to cause death and that after double nephrectomy if the extract derived from the two kidneys be injected death results in from 36 to 48 hours instead of 24 hours later. These authors consider therefore that the renal substance not only possesses a high degree of toxicity but that the use of renal extract in uræmia and in renal disease can only do harm. Some of their other results, however, were of even greater interest; they found that these renal extracts produced changes in the renal cells in the animals into which they were injected but they also produced changes in the cells of other organs and especially in the liver where fatty degeneration was frequently observed. Inasmuch as hepatic lesions as well as renal lesions were produced, Albarran and Bernard considered that the renal substances could not be held to contain a specific nephrotoxin and so they were led to conduct experiments in which they used a hepatic extract instead of a renal extract. They found that this produced renal lesions indistinguishable from those seen to follow injection of kidney extract. They conclude that the liver substance is as toxic on the kidney as the kidney substance and that the kidney does not react specially to injections of renal extract. Similarly these authors observed the phenomena produced in the kidney by a nephrotoxic serum prepared by the injection of renal extract into animals and they contrasted these lesions with those produced by a similar serum prepared by the injection of a hepatic substance and they conclude that the renal lesions are really the result of a general toxic action of the serum and are not sufficiently marked or special to be looked upon in any way as representing a specific action. Thus at the present time these authors think there is no positive proof of the existence of specific renal cell poisons and that as mentioned above

the results are to be looked upon as produced by the toxic action of the cell juices of a different species rather than as produced by the special action of the cell juices of a given organ. All these experiments show the subtle character of many renal poisons and from that point of view are of interest but in the present state of our knowledge of these substances it would not seem that specific renal poisons could be elaborated as a result of the passage into the blood stream of the cell constituents of the kidney. If such an action were possible either as regards the renal cells or those of other tissues of the body great light would be thrown on the origin of many diseases and a new departure of wide-reaching importance in pathology would be made.

The number of renal poisons is thus very large and they possess, as we have seen, very considerable differential action. At the same time their action is not one exclusively on any single renal element and in this respect these renal poisons in their action present considerable resemblance to the effects seen in disease. Although from a theoretical point of view it may be convenient to recognise so-called glomerular or so-called tubular nephritis yet neither with the experimental poisons nor with the effects of disease would it be correct to state that the lesions produced are actually limited to one or other of these renal elements. A glomerulo-nephritis does not really mean a renal lesion in which the effects are limited to the glomeruli but merely one in which the changes in the glomeruli are more marked and more pronounced than those in the tubules or in the interstitial tissue. This want of complete differentiation in the action of the renal poison may no doubt be in part dependent on the specific action of the poison itself. But it may also be dependent on the peculiar arrangement of the vessels of the kidney; inasmuch as the blood-supply of the convoluted tubules is derived from the afferent vessel of the glomerular chamber it is obvious that any profound effect produced on the vessels of the glomeruli must be followed by interference with the blood-supply of the tubules and consequent impairment in the physiological integrity of the tubular epithelium. Notwithstanding these facts, however, there are, as already mentioned, profound differences in the action of such renal poisons as cantharidin, the heavy metals, abrin, ricin, &c.

In discussing the experimental production of renal lesions we have not only to consider the action or even the differential action of renal poisons but there is another problem of considerable importance and of great pathological interest—viz., the relationship, if any, between changes in the interstitial tissue of the kidney on the one hand and the lesions produced in the so-called nobler elements such as the glomerular or tubular epithelium on the other. This relationship, of course, is not a problem special to the kidney but one really of general pathology and the same question presents itself in other organs, as, for instance, the liver or even in the central nervous system and especially the spinal cord.

Some renal poisons—for instance, vinylamine—are stated to produce changes in the interstitial tissue of the kidney somewhat similar to those seen in disease if the substance be administered in quite small doses for considerable lengths of time. The first question that presents itself is the one whether the overgrowth of fibrous tissue is in any way to be correlated with the destruction of, or injury to, the cell elements. In order to investigate this problem in the case of the kidney it is necessary to damage in some way the renal cells and at the same time to contrive the experiment in such a fashion that prolonged survival on the part of the animal is possible in order to allow sufficient length of time to elapse for the development of the fibrous tissue. There are three experimental methods which suggest themselves as suitable for this purpose. The first is interference with the vascular supply by ligature of the renal artery, the second is damage to the renal cells by ligature of the ureter, and the third is the injection of renal poisons in a special manner. The first of these methods is, of course, the least suitable but it is of some interest that ligature of the renal artery is followed by a gradual shrinkage of the kidney with necrosis of the epithelium and without any notable overgrowth of fibrous tissue. The methods of damage to renal cells by temporary ligature of the ureter or by the injection of poisons are much more suitable for our present purpose and I propose to bring before you shortly the results of some such experiments.

Ligature of the ureter invariably produces a hydro- or pyonephrosis and in no instance was the obstruction of the ureter followed by that suppression of urine that we so often see clinically as a result of the impaction of a calculus. Even if the ureter be ligatured close to the renal pelvis such suppression of the renal functions is not seen and hydro- or pyo-nephrosis is still developed. In a considerable proportion of the cases in which the ureter was ligatured, even when, as was usually the case, it was ligatured close to the bladder, a pyonephrosis was the result. All the experiments where pyonephritis occurred were useless for the particular purpose of investigating the changes, if any, induced in the interstitial tissue as a result of damage to the renal cells produced by increased pressure. Although the observations of the results were useless for this particular purpose it is of some interest that ligature of the ureter carried out with all antiseptic precautions and without any handling of the kidney or the production of any peritonitis should yet be followed in a considerable proportion of cases by the production of a pyonephrosis. The infection in these cases could scarcely have reached the kidney from the operative procedures and it would seem more probable that the infection was a blood one. It is probable that many cases of acute pyonephrosis in the human subject, a not uncommon disease, are really dependent primarily on a blood infection. As already mentioned the observations were limited exclusively to those where a hydronephrosis developed as a result of the ligature of the ureter. After this had developed so as to produce an obvious renal tumour the ureter was again cut down upon, opened, and sutured to the skin so as to drain the hydronephrosis. The object of the experiment was to damage the renal cells to a slight but varying extent by the production of the hydronephrosis and then to observe whether after the subsequent drainage any overgrowth of fibrous tissue would ensue as a result of the damage inflicted on the higher elements in the renal tissue. It is of some interest that in those circumstances the kidney returned very much to its normal shape but became greatly diminished in size. The return to the normal shape was so perfect as sometimes to make it difficult to believe that the kidney had ever been distended. The epithelium in the tubules presented that peculiar hyaline glass-like character that is seen in so many renal diseases and the glomeruli presented numerous changes which need not detain us, but the point of most interest was that notwithstanding the great diminution in the size of the kidney this organ did not present any signs of connective tissue overgrowth. In other words, an atrophy of the epithelium and an atrophy of the kidney, no doubt largely dependent on the shedding of the epithelium, had been produced by this experimental procedure and the atrophy was of a very perfect character. But notwithstanding the destruction of the epithelium there had been no overgrowth of connective tissue. Bichromate of potash was selected as the renal poison most suitable for the present purpose, inasmuch as it produced very marked changes in the tubular epithelium. In order to investigate the relation of the interstitial tissue to the epithelium it was necessary to inject the bichromate of potash in a special manner. If injected into the general blood stream this poison would of course produce changes slight or severe according to the dose in the epithelium of both kidneys. In order to determine such a question as the possible overgrowth of connective tissue it would be necessary to have made repeated injections of small quantities of the substance for long periods of time and this would clearly have vitiated the result, inasmuch as any overgrowths that might have been observed might have been due to the repeated irritative action of the bichromate on the interstitial tissue itself. On the other hand, if a single large dose were injected this would probably produce such marked changes in the epithelium in both kidneys as to lead to the rapid death of the animal, not allowing sufficient time for the development of any fibroid overgrowth. For these reasons the bichromate was injected in moderate quantity straight into the renal artery on one side and strange as it may seem it is quite possible to inject successfully a few drops of a bichromate of potash solution into the renal artery of an animal without producing any serious damage to the vessel. It is necessary to stretch it at the moment of injection and to perforate it obliquely and thus the bichromate may be introduced into the circulation of one kidney without leading to sufficient damage of the vessel to cause either thrombosis or hæmorrhage. In some instances where the renal artery was too small to carry out this procedure successfully one of the smaller branches of the vessel was divided, the peripheral end was ligatured, and the injection was made into the central end, the renal artery itself being temporarily compressed on the proximal side during the injection. The divided branch of the renal artery was then ligatured, the

compression was relaxed, and so the blood and bichromate were washed into the kidney. By either of those methods a more or less concentrated dose of the bichromate is sent into one kidney, but the poison is freely diluted by the general blood stream before it reaches the opposite kidney and thus it is possible to produce very marked renal lesions on the one side without the general health of the animal in any way suffering owing to the poison being too dilute to produce any marked effects on the opposite kidney. The injection of bichromate by this method is not followed by any symptoms of illness or discomfort and the only marked effect produced is a slight albuminuria. It is interesting to observe that the amount of albumin is always small and frequently not more than a trace. The animals remained in good health and were killed at intervals varying from two to eight months. The kidney on examination was found to be shrunken and the renal artery pervious. On microscopical examination the epithelium of the tubule was found to be shed over large areas of the kidney and the glomeruli also presented some changes such as shrinkage and atrophy. The great diminution in the size of the kidney was dependent, however, on the shedding of the tubular epithelium and the point of interest rested in the fact that notwithstanding the great diminution in the size of the kidney there was no overgrowth of interstitial tissue.

These experiments would seem to show that destruction of the renal epithelium by a metallic poison like bichromate of potash is not at any rate necessarily followed by any consecutive fibrosis. When a dose of bichromate equal to that used in the injections into the renal artery was injected into the general circulation through the jugular vein a destructive action on the cells of the renal tubules in both kidneys was produced resulting in practically total necrosis of the tubular epithelium. In such animals the excretion of urine was arrested and effects somewhat similar to those seen after complete nephrectomy were observed but vomiting and diarrhœa were more marked symptoms. A curious result is the fact that in the earlier stages of the action of this renal poison the albuminuria produced is by no means intense and in that respect offers a great contrast to the intense albuminuria seen clinically in many forms of acute diffuse nephritis. In fact, it would seem that very complete destruction of the epithelium of the tubules is possible without causing more than a slight albuminuria. In the other experiments just alluded to, where destruction of the epithelium of the tubules and atrophy of the kidneys were produced by temporary ligature of the ureter, the albuminuria observed in the secretion of the damaged kidney when the ureter was drained was also slight in amount, notwithstanding that the tubular and even the glomerular changes were very marked. The amount of albumin found in the urine in both these experimental conditions was much more comparable to that seen in the true granular kidney than to that present in the ordinary forms of Bright's disease, acute or chronic. It is, of course, quite possible that in both the experimental series the albuminuria was associated with the changes produced by the poison or by the ligature of the ureter on the glomeruli rather than on the tubular changes. The point to which I wish to direct attention at the present moment is that very extensive damage may be inflicted on the tubular epithelium without causing any large amount of albuminuria. This would suggest that albuminuria might normally be dependent either on glomerular changes or else that the epithelium of the tubules is to a certain extent necessary for its presence and that when this is more or less completely destroyed albuminuria is not such a marked phenomenon. The experimental results were somewhat similar to those seen in advanced stages of granular kidney where large areas of the renal tubules are either destitute of epithelium or are merely lined by a layer of glass-like hyaline cells which have completely lost their characteristic renal structure.

A great deal more work is necessary in order to elucidate the action of renal poisons on the kidney and especially to determine whether the overgrowth of fibrous tissue that is such a constant accompaniment of chronic renal disease in almost all its forms is not really due to the long-continued or repeated action of toxic agents. It would certainly appear that the mere destruction of the higher elements of the kidney structure produced by the immediate action of a poison is not of itself sufficient to cause the fibroid overgrowth.

Sufficient has been said to show that a very considerable number of renal poisons exist capable of producing marked structural alterations in the organs. It will be noticed, however, that none of these poisons produce a clinical picture at all similar to that seen in Bright's disease, since one of the most conspicuous features in Bright's disease—viz., dropsy—is absent. Varying degrees of nephritis may be produced experimentally from one where but a slight albuminuria exists to another where complete suppression of urine with uræmic manifestations and rapid death occurs, but in none of these is dropsy seen. Although at first sight this would seem to mark a clear difference between the experimental and the clinical facts further analyses show really that there is considerable resemblance between the experimental and the clinical phenomena. Some of the most severe forms of acute nephritis seen in the human subject are not accompanied by dropsy and not only is this the case with regard to forms of very acute nephritis of uncertain etiology of obscure origin but the same thing may even be seen in such a well-known and definite nephritis as that seen as a complication of scarlet fever. Every physician has seen cases of intense nephritis with hæmaturia, albuminuria, &c., followed shortly by arrest of the renal secretion and the onset of marked uræmic symptoms not uncommonly followed by death, and yet notwithstanding the intensity of the renal lesion no anasarca has been present. In many of these cases the uræmic symptoms are well marked and are of a somewhat similar character to those seen in the acute uræmia complicating Bright's disease. But in others—and this seems to me a point of considerable theoretical interest—the phenomena are more closely similar to those seen in so-called obstructive suppression. In other words, in some cases an intense inflammatory affection of the kidneys may occur, associated with complete suppression of urine often lasting for many days, and the patient will succumb with symptoms precisely similar to those seen in calculous obstruction and known as latent uræmia. This group of cases in the human subject is no doubt somewhat rare but still it occurs and the results are very similar if not identical with the phenomena produced in the laboratory by the action of poisons suddenly destroying the integrity of the kidney.

POST-GRADUATE DEMONSTRATION ON RHEUMATOID ARTHRITIS.

BY CHARLES J. MACALISTER, M.D. EDIN., M.R.C.P. LOND.,

LECTURER ON CLINICAL MEDICINE, UNIVERSITY OF LIVERPOOL; PHYSICIAN TO THE LIVERPOOL ROYAL SOUTHERN HOSPITAL AND TO THE COUNTRY HOSPITAL FOR CHILDREN; SENIOR MEDICAL OFFICER TO THE HOME FOR INCURABLES.

IN a general hospital we have little opportunity for studying the disease which is known as chronic rheumatoid arthritis because, being regarded as an incurable or very chronic complaint, the tendency is to palliate suffering for a time by rest and nursing and good feeding and by a somewhat routine administration of drugs and when the time limit has expired, or sooner, the patients are discharged in conditions of health not essentially different from those in which we found them. In a home for incurables, on the other hand, the patients are under observation for many years and it becomes possible to work at the disease with reference to its causes, course, and treatment in a way which would otherwise be impossible. The study of this malady in its chronic forms throws light upon certain cases, however, which we come across in the hospital wards and when their records are compared they reflect upon one another in a way which goes to prove that rheumatoid arthritis is a very complex disorder which has many factors concerned in its etiology. The disease as we frequently see it is in an advanced stage, often with very little activity about it or even cured, not a few cases reaching the stage of cure after numerous joints have been destroyed; and when this is the case all that remains to be done is to promote mobility in the parts which often become wonderfully useful even when great deformity has been brought about. It is astonishing to witness the dexterity with which a woman whose metacarpo-phalangeal joints are all dislocated, so that the fingers hang like so many tassels, can knit and sew

and the amount of power which she acquires when pain disappears and stiffness of the larger joints has been lessened by passive movement or hot air and baths, and happy may patients consider themselves if this inactive stage is reached, for unfortunately another aspect of the disease is very gruesome, where after prolonged suffering its final stages are unrelieved of pain and every movement is associated with torture. The sufferer then sits or lies in a condition of rigidity, the extremities wooden in their appearance, the lower ones presenting the solid œdema characteristic of the complaint when it assumes this form. It was formerly customary, following the teaching of Charcot, to classify cases according to their anatomical features in the types of flexion and of extension, but the type of deformity is not of great moment, the cause of the disease being the essential consideration, for if this can be discovered and dealt with it may be possible to arrest it either before it has produced much structural change or after crippling and deformity have been brought about, if the condition still remains active and progressive. I would at this point only warn you against the temptation to attempt the forcible extension of, or surgical interference with, joints in which the disease is active, for I have seen such proceedings to be followed by most unfortunate results and by the losing of ground which has been with difficulty gained.

The first case I show you illustrates a very chronic and progressive type of the disease, the patient being a woman, aged 67 years, whose illness began in 1885 with what she describes as an attack of "rheumatic fever" which lasted for six weeks or more. It involved all the joints, both great and small, and at length when the fever subsided recovery was not complete in the hand, which remained swollen and painful and the wrists and fingers gradually became contracted. Some time later the knees became affected, first of all swollen and finally contracted, and so in gradual succession over a long period of years the shoulders, the elbows, the hips, the ankles, and the feet have been similarly involved, the cervical and temporo-maxillary joints and even the synostoses of the skull not escaping, and now she is rigidly locked up in all her joints, unable to move a finger to help herself and suffering severe pains every time she is moved.

In connexion with this case I wish to direct particular attention to the history of an initial attack of rheumatic fever of long duration and to remind you that in our practice we every now and then come across cases very like rheumatic fever, presenting the painful, inflamed, and swollen joints, fever and sweatings, but differing from it in there being no liability to cardiac complications and in a tendency for chronic joint troubles to remain. I have records of a number of these cases and have pointed out[1] that they represent the cases of rheumatic fever in which the salicylates are powerless, the fact being that they are not cases of rheumatic fever at all but are due to a different toxin which, if uneliminated, will lead to chronic rheumatoid arthritis. I consider the salicylates to be tests for rheumatic fever for which they are specifics and that if they produce no benefit the disease is rheumatoid and not rheumatism. I regard it as of great importance that these rheumatoid fevers should be recognised and treated energetically in view of the very serious consequences which may follow in their train. The toxins which give rise to them are generated in the economy, generally in association with some mucous surface, as the following case well illustrates.

A man, aged 26 years, was admitted to the Liverpool Royal Southern Hospital on July 31st, 1901, suffering from headache, profuse sour-smelling perspirations, and from pain, swelling, and slight redness of the knees, the elbows, and of the finger and toe-joints. There were miliaria all over the chest and abdomen, the tongue was thickly furred, and the bowels were constipated; the respiratory and circulatory systems were normal. He had been ill for seven days. The temperature ranged from 99·6° F. in the mornings to 101·2° in the evenings and neither this nor his general condition was improved by the administration of 10 grains of salicylate of sodium which was given every three hours for a week; in fact, on August 5th, 6th, and 7th the temperature had become higher each night and the trouble had extended to the sterno-clavicular articulations. On the 7th guaiacol carbonate was substituted for the salicylate but on the 10th the temperature was still high and the left temporo-maxillary articulation had become involved. There were profuse perspirations and the skin was covered with miliaria. On this date it was observed that the secretions from the nose were blood-stained and it was at once directed that it should be washed out several times daily with a lotion containing one drachm of liquor hamamelidis to one ounce of a saturated solution of boric acid. The guaiacol was stopped and quinine was given in its place. On the following day (the 11th) the temperature was subnormal except in the evening, when it reached 99·6°, and on and after the 12th it remained normal. The pain rapidly subsided and he quickly improved. This man had a chronic rhinitis, which is a very frequent antecedent of the disease, and I would wish to impress the fact that it is not necessary to have ulceration in the nose (although I have seen it several times). It is quite sufficient to have a swollen mucosa the surfaces of which are in contact and I have no doubt that the retained secretions undergo some infection which, being absorbed, gives rise to the trouble. I mention this case only by way of example, because although the nose is an obvious seat of absorption it occurs from many other places and I have seen it in pulmonary conditions, as in bronchiectasis with retained secretions, and in not a few cases it has occurred from some part of the alimentary canal. The majority of sufferers are women and the catarrhal affections of the genital tract are probably responsible for the disease in many, but there are other factors to consider in this relation to which I shall refer later.

There was a case admitted into the Liverpool Royal Southern Hospital on Sept. 18th, 1901, which was of great interest because it led me to think about the way in which remedies seem to act in some cases of toxæmia. The man, aged 40 years, who had previously been quite healthy, had for 14 days been suffering from fever with pains and swellings of the joints of both his upper and lower extremities, and on admission he looked like a case of acute rheumatism. He was sweating profusely and the knuckles of both hands and the finger-joints were swollen and tender. The wrists, the shoulders, the elbows, and the ankles were very painful. The heart sounds were all closed, the lungs were normal, and the urine was of specific gravity 1018, acid, and contained no albumin. For seven days he was given salicylate of sodium (15 grains) every four hours, with the result that the temperature, which was remittent in type (from 99·0° A.M. to 101° P.M.), became higher. Guaiacol was then tried without any benefit for three days and then, on Sept. 28th, hydrochloride of quinine was given, at first twice and afterwards three times daily, with the result that the temperature fell by a lysis extending over two days and his pains and swellings quickly disappeared. As in all these cases this patient perspired profusely, the sweat being sour-smelling, but immediately the quinine was commenced it altered its character entirely and he began to eliminate from his skin a volatile matter having an odour more like garlic than anything else. This elimination continued for several days and then ceased. It was so offensive that he had to be removed from the ward the atmosphere of which became permeated with it. The recovery of the patient corresponded with the getting rid of this odorous material which was certainly connected with his complaint.

In connexion with this case let me remind you of one of another disease which I published in THE LANCET of Dec. 7th, 1895, p. 1428. In a case of profound uræmic coma, in which other remedies had been tried unavailingly, oxygen was administered through a tube inserted in one of the nostrils, with the result that the man speedily regained consciousness and ultimately recovered completely. Uræmia, as is well known, depends in many cases upon the fact that the poisons which cause it are incapable of stimulating the kidney to remove them. The presence of urea in the blood stimulates the kidney and causes more blood to pass through it until the waste product is removed, but some of the poisons which cause uræmia have not this stimulating action on the organ and consequently they are retained and increase and cause narcosis, or convulsions, according to their nature, and in the case which I have referred to it seems reasonable to suppose that the oxygen changed the nature of the poison and rendered it less noxious and capable of elimination. Similarly in the case of rheumatoid fever which I have quoted, although the patient perspired profusely and passed urine which was not perceptibly abnormal, the poison was retained until quinine was given, when its nature was changed and it was freely eliminated. I believe that in many toxic diseases the remedies may act in this way;

[1] Royal Southern Hospital Reports, 1901.

colchicum, for instance, in gout (which is only another example of a toxæmia which sometimes has manifestations very like those of rheumatoid arthritis), salicylates in acute rheumatism, and so forth; the drugs acting as vehicles for the poisons and rendering them capable of stimulating the kidneys or skin to remove them. When these rheumatoid fevers instead of recovering completely lead to chronic rheumatoid arthritis it seems probable that the poison either continues to be generated from its unascertained source, or that it produces perversions in the economy which we do not fully understand, but even if it has existed for years and is still active the administration of quinine and the local treatment of diseased mucous surfaces will often do good as I have repeatedly been able to demonstrate.

The next case to which I wish to invite your attention is interesting because it shows how the disease may be set up by septic fevers. Here it took its origin in a woman, now aged 30 years, in an attack of scarlet fever five years ago which was followed by the so-called scarlatinal rheumatism. This lasted for nine weeks, then came an interval of comparative freedom lasting four months, and this was succeeded by a febrile relapse with joint pains which kept her in bed for 18 weeks. She subsequently returned to her duty as a nurse for a few months, but the typical chronic rheumatoid form of disease then began in the first interphalangeal joint of the right hand and since then joint after joint has become implicated, until she is now bedridden and crippled, many of the joints having become distorted, her hands, feet, knees, &c., presenting the usual deformities. When recovering from the scarlet fever this patient noticed that her fingers used to become numb and dead at the ends and the feet were similarly affected and during the course of the disease, especially in the first five months, she had suffered severely from cramps which began in the upper intercostal muscles and later affected those of the thighs and legs. It is very common to find these two latter symptoms in cases of rheumatoid arthritis, but sometimes they both exist not only in the course of the disease when the joints are involved, but as antecedents to their implication and, taken in conjunction with the increased reflexes which are almost invariably present, they indicate that the toxin acts upon the nervous centres and renders them very excitable. My colleague, Dr. T. R. W. Armour, has found that by putting the limbs into splints, so that the irritation from the painful joints is lessened, the cramps have been relieved. If you feel this patient's hands and feet you will observe that they are cold and covered with moisture but under treatment with large doses of quinine she has improved wonderfully and I hope will reach the stage of arrest with deformity before long. Her thyroid gland is small and she has been taking thyroid extract for reasons which I shall refer to in my next case.

The chronic rheumatoid condition in this case has run a course very similar to those of plenty of others in which there has been no antecedent scarlet fever. We cannot always trace the source of the poison which causes it and there can be no doubt that it may originate in a great many different ways. In one girl here the disease started with absolute suddenness, a pain striking her under the knee one morning shortly after her breakfast and since then many joints have become involved and she is crippled, although only 15 years of age. In other cases the process has been less acute and longer intervals have existed between the joint invasions but the results are the same in the end with the difference that arrest of the disease takes place in some while in others it remains ever progressive and active. We cannot find the source of the toxin in every case but it should always be looked for and success will in some cases reward our efforts.

I am now going to show you a case which is very different from any which we have so far looked at. It is a unique case and has been of great interest to me because it has led my thoughts into channels which diverted me from the groove into which one is apt to get when a number of cases more or less resembling one another come under observation. The patient was 62 years of age when admitted to the home in 1891 and for three years she had suffered from rheumatoid symptoms which, commencing in the right wrist, rather rapidly affected in succession most of the other joints, including those of her hands and fingers. She was entirely crippled when admitted and the disease was still active, manifesting itself not only in the synovial swellings round the joints but also in the intensely painful nodules which appeared from time to time on the aponeurosis of the occipito-frontalis. Shortly after admission to the home this patient had an apoplectic attack causing a right-sided hemiplegia, from which she recovered, and the greater distortion in the joints of the right hand are due to contractions following the stroke. Shortly after this seizure came a new and very extraordinary train of events not easy of explanation, for a gradual swelling took place in her limbs and trunk, but especially in the lower extremities, until at length she had the appearance of a case of general anasarca. The trunk and upper extremities were only moderately swollen, but the lower extremities became enormous, the calves measuring 22 inches in circumference. There were no albumin and no evidence of cardiac or pulmonary disease to account for the condition. She was in a state of great mental depression, wept frequently and took not the slightest interest in her surroundings. The condition of the feet and legs was so remarkable, their proportions so enormous compared with other parts, that I am afraid my attention was diverted from the true nature of this case and I regarded it for a long time as due to the solid œdema with which we are familiar in cases of rheumatoid arthritis, and it was only the course run by an ulcer which appeared on the dorsum of the right foot which led to a true interpretation of the case. This ulcer caused me much concern when it first appeared, because deep ulcers appearing in this disease are of very grave significance; we have had seven of them in the past 15 years, two on the knee, three in the dorsum of the foot, and two over the sacrum, and in every case they have been related to the death of the patient. In this case, however, the ulcer was evidently not an absorbing surface; it was indolent, painful, and there was not much discharge from it; it lasted for weeks and nothing would induce it to heal; its edges were precipitous, so that it presented the appearance of having been gouged out with a large cork borer. Looking at it one day and wondering what could be done to stimulate it and to promote some activity in the process of repair it seemed to me that its walls looked rather like mucoid tissue, and it was only then that it occurred to me that the case, whatever its primary nature, had myxœdema complicating it. She was at once put upon thyroid gland in gradually increasing doses until she was taking 15 grains daily in tabloid form. The result of this treatment was most satisfactory, the ulcer quickly healed, the swelling of the arms and trunk vanished and that of the legs diminished, so that the calves measured only 14 inches instead of 22 inches. With this the mental depression improved and she became quite cheerful and in addition the joints became less painful and swollen and in some cases more mobile. The feet and legs have never entirely returned to their proper shape and the residual swelling may be regarded as a local myxœdema together with the solid œdema which is so common in the disease.

I have told you that this case has influenced my impressions considerably with reference to some examples of rheumatoid arthritis and subsequent experience has taught me that there is a relationship between some manifestations of this disease and the thyroid functions. I have recently had two very striking cases illustrative of this fact, one patient being a woman, aged 43 years, who gave the following history. She had been a delicate girl and had suffered much from dyspepsia and neuralgia and from what she described "a sluggish circulation causing chilblains, coldness, and numbness of the hands." When aged 21 years, and for several years afterwards, she had frequent attacks of cramp in the hands, feet, and calves. The thumbs became forcibly flexed into the palms from time to time and there were twitchings of the muscles which became very easily fatigued. She had frequent nervous headaches, causing great prostration. About the same time, without any external swelling, the joints began to creak and the skin became dry, rough, and irritable during the winter but perspired freely during the summer. Her hair became weak and was constantly falling out and her singing voice, previously of good quality, was lost. The rheumatism of the joints never left her and although able to go about she suffered constantly, the trouble being increased by eczema which attacked her at 38 years of age. A year later the breast-bone began to be tender and the sterno-clavicular articulations became swollen and very tender. At 40 years of age she had a severe exacerbation with increased joint pains and muscular cramps. In the following three years there were further attacks with implication of the ankles and when I saw her early this year she presented the usual signs of this type of rheumatoid arthritis, the fingers being spindled and painful; there were stiffness and swelling in the knees and other

joints; the breast-bone, sterno-chondral junctions, and sterno-clavicular articulations were swollen and tender, and the lower extremities were in a state of solid œdema. I treated her with the pharmacopœial liquor thyroidei in conjunction with nitrite of sodium (her surface and extremities being very cold and numb) and the result has been most satisfactory, the swellings and pains having left her legs and hands. She now states that she is in better health than she has been for five years.

The other case to which I have referred was that of a young woman who in the spring of 1903 began to have severe rheumatic pains in the knees which became stiff and creaking. Later other large joints became similarly affected and the fingers became swollen and painful. She had for long been subject to coldness of the hands and feet, her fingers becoming dead white and numb, even in warm weather. When I saw her last August she was lame and stiff and there were peri-articular swellings of the fingers and wrists. The extremities were cold and sweating freely. Like the previous patient she suffered from severe nervous headaches which usually lasted for about a day. Her general health was good but she felt depressed and disinclined for work. This patient was treated with five grains of thyroid gland (tabloid) daily with the result that in three weeks the pains were gone and the swellings had vanished and she has had no relapse.

I have published elsewhere[2] my views concerning the relationship which exists between certain cases of rheumatoid arthritis and Raynaud's disease and have referred to the coldness and numbness of the extremities which constitute early symptoms of rheumatoid arthritis as in the above two cases. You will find that migraine is another example of an associated condition and in some cases asthmatic attacks from time to time accompany fresh exacerbations of the rheumatoid pains. In some families you will find rheumatoid arthritis affecting one girl and Raynaud's disease or some modification of it present in her sisters; indeed, the association of the two conditions in a family or in the same individual is so frequent that it cannot be ignored. And so with the cramps they are not accidental to the disease, but are connected with it and symptomatic of the excited condition of the spinal centres to which the toxin gives rise.

I must refer you to my former papers on this subject for further consideration of the relationships which exist between rheumatoid arthritis and some other diseases.

Liverpool.

110 CASES OF TOTAL ENUCLEATION OF THE PROSTATE FOR RADICAL CURE OF ENLARGEMENT OF THAT ORGAN.

BY P. J. FREYER, M.A., M.D., M.CH.,

SURGEON TO KING EDWARD VII.'S HOSPITAL FOR OFFICERS AND TO ST. PETER'S HOSPITAL FOR STONE AND OTHER URINARY DISEASES, LONDON.

IN a series of lectures delivered by me at the Medical Graduates' College and Polyclinic in November, 1900, and published in THE LANCET of Jan. 12th (p. 79) and 19th (p. 149), 1901, I endeavoured to give a practical summary of our knowledge, as it then existed, of the disease generally known as "hypertrophy of the prostate," describing its pathology, symptoms, diagnosis, and various methods of treatment. It was then pointed out that there was, perhaps, no other disease in the whole range of surgery for which so many and diverse modes of treatment had been advocated, a fact in itself suggestive of the unsatisfactory nature of most if not all of them, so that at the time catheterism pure and simple, with all its disadvantages and dangers, reigned supreme in the practice of most surgeons as the least objectionable of all.

From time to time various procedures had been proposed and practised with a view to an attempt at radical cure of the disease. Most prominent amongst these may be mentioned partial prostatectomy (whether by the urethral, perineal, or suprapubic route), castration, vasectomy, and Botini's operation, which consisted in an attempt to burn away by the electric cautery the so-called "middle" lobe of the prostate. Each of these procedures enjoyed a temporary though transient notoriety. I ventured to hold that partial prostatectomy by the suprapubic route, first performed by Belfield of America but best known in this country in connexion with the name of McGill who brought it prominently before the profession in 1888, was the most practical attempt at a rational method of dealing with the obstruction caused by the enlarged prostate. The operation consisted in opening the bladder suprapubically and removing the prominent portions of the prostate in that viscus or as much of it as possible by means of scissors, forceps, and scoops of kinds. I myself had performed this operation on several occasions with some measure of success. But apart from the high mortality attending the procedure it possessed the disadvantage that, though frequently followed by the subsidence of the most prominent symptoms, temporarily at least, and rendering the employment of the catheter more easy, in a very large proportion of cases the bladder failed to regain its power of expelling the urine. This was due to the fact that the outgrowth in the bladder is, as a rule, not the only or, indeed, the chief cause of the obstruction, as was imagined, which is mainly due to the lateral pressure on the urethra by the enlarged prostatic lobes. Indeed, when once the bladder had completely lost its expulsive power—that is to say, when the whole of the urine had to be drawn off by the catheter—McGill's operation was practically incapable of restoring that power. Add to this the fact that, as only the prominent portions of the prostate in the bladder were removed, there was no immunity against recurrent outgrowth or general enlargement of the gland and we realise in what a very limited sense this operation could be regarded as radical. Owing to these considerations the operation, after enjoying a temporary and fitful notoriety for a few years, may be said to have died out of surgical practice. It was replaced, first by castration and later by vasectomy, which was practised extensively during the closing years of last century. Experience has shown that both these procedures were practically useless and the former dangerous. They have now passed into oblivion.

Shortly after these lectures were delivered—indeed, before they were published—on Dec. 1st, 1900, I performed a new, and what seemed at first sight a very formidable operation for radical cure of the disease—namely, total extirpation of the enlarged prostate. In a lecture delivered at the Medical Graduates' College in June, 1901, I gave full details of this and three further cases in which I had undertaken the operation, in all four with complete success. Two of the patients were shown at the lecture in perfect health, able to retain and pass their urine as well as ever they did, though previously completely dependent on the catheter. The lecture was published in July, 1901, and the operation was thus submitted for the consideration of the profession at large. The complete success that followed these operations entirely revolutionised my views regarding the treatment of this widespread and painful malady and, I submit, opened up a new era in this branch of surgery. Since then I have from time to time published lectures and papers on several series of cases of my operation. In this manner full details of my first 73 cases have been placed before the profession. Having now performed the operation in more than 100 cases I propose in this paper to review its present position, giving the latest details of the procedure and describing the anatomical and pathological considerations that render it practicable.

A careful examination of the specimens removed in these operations throws an entirely new light on the anatomy of the prostate and its relations to the surrounding structures, and shows that the descriptions contained in the anatomical text-books generally are incomplete and erroneous in treating that organ as a single body with a canal tunnelled through it in the form of the prostatic urethra. The prostate is in reality composed of twin organs, of apparently purely sexual function, which in some of the lower animals remain distinct and separate throughout life, as they exist in the human male during the first four months of fœtal existence. After that period, in the human fœtus, they approach each other, and their inner aspects become agglutinated together, except along the course of the urethra, which they envelop in their embrace. These two glandular organs, which constitute the lateral lobes of the prostate, though welded together, as it

[2] Royal Southern Hospital Reports, 1902.

[1] Brit. Med. Journ., July 20th, 1901.

were, to form one mass, remain, so far as their secreting substance and functions are concerned, practically as distinct as the testes, their respective gland-ducts opening into the urethra on either side of the verumontanum. Each of these two glandular bodies, or prostates, is enveloped by a strong, thin, fibrous capsule; and it is these capsules—less those portions of them that dip inwards, covering the opposing aspects of the glandular bodies or lobes, and thus disappear from view, being embedded in the substance of the prostatic mass—that constitute the true capsule of the prostate regarded as a whole. This capsule extends over the entire organ except along the anterior and posterior commissures or bridges of tissue that unite the lateral lobes in front of and behind the urethra, thus filling in the gaps between them. This true capsule is intimately connected with the prostatic mass and incapable of being removed from it save by dissection. The urethra, accompanied by its surrounding structures—viz., its longitudinal and circular coats of muscles continued downwards from the bladder, its vessels and nerves—passes downwards and forwards between, and is embraced by, the inner aspects of the two glands or lobes. The ejaculatory ducts enter the prostatic mass close together in an interlobular depression at the posterior part of its upper aspect, each duct coursing along the inner surface of the corresponding lobe. They do not penetrate the capsules of the lobes but pass forwards in the interlobular tissue to open into the urethra. The prostate, thus constituted and enveloped by its *true capsule*, is further encased in a second capsule or *sheath* formed by the recto-vesical fascia, numerous connecting bands passing, however, between the two. The nomenclature here adopted is that suggested by Sir Henry Thompson in his work, "The Diseases of the Prostate," and is both scientific and practical. Embedded in the outer capsule or sheath lies the prostatic plexus of veins, most marked in front and on the sides of the prostate.

There is nothing that I can call to mind that illustrates more simply and forcibly the composition of the prostate and its coverings than an orange. If we imagine the edible portion of an orange composed of two segments only instead of several, with the septum between them placed vertically, we have a rough and homely illustration of the formation of the prostate. The thin, strong, fibrous tissue which covers the segments of the orange and which is intimately connected with the pulp represents the *true capsule* of the prostate, the two segments or halves of the orange being represented by the two lobes. Further, the rind of the orange outside all represents the outer capsule or prostatic sheath formed by the recto-vesical fascia. And here let me remark that in the operation that I shall presently set forth it is this inner or true capsule as above described that is removed, the outer capsule or sheath being left behind, thus preventing infiltration of urine into the cellular tissues of the pelvis. The text-books, as a rule, draw no distinction between the two separate coverings of the prostate, treating them both combined, or the outer one only, as "the capsule." To persons brought up in this school of thought and teaching my operation must at first sight necessarily have appeared impossible.

In most, if not in all, cases of enlargement of the prostate of declining life the overgrowth is adenomatous in character, numerous encapsuled adenomatous tumours being found embedded within the substance of the lobes and frequently protruding on their surfaces. They sometimes assume the form of polypoid outgrowths which, however, are invariably inclosed within the *true capsule*, which is pushed before them. As the lobes enlarge they bulge out and have a tendency, each inclosed within its own capsule, to become more defined and isolated, thus recalling their separate existence in early fœtal life. They become more loosely attached along their commissures (particularly the anterior one) which in the normal prostate unite them in front of, and behind, the urethra. And in the course of this change the urethra, with its accompanying structures, is loosened from its close attachment to the inner surfaces of the lobes, thus facilitating its being detached and left behind uninjured in the removal of the prostate, as will presently appear. In the earlier stages of the adenomatous overgrowth the enlargement is probably entirely extravesical. Its expansion in this position is, however, limited, particularly by the triangular ligament below. As the enlargement progresses it advances in the direction of least resistance—namely, upwards into the bladder. The sheath at the superior aspect of the prostate is incomplete around the urethra. As the enlargement proceeds the prostate gradually insinuates itself through this opening in the sheath into the bladder, and the muscle of the bladder becoming thinner and thinner from gradual pressure of the outgrowth the prostate in this direction is eventually merely covered by the mucous membrane of the bladder. In most of the specimens of enlarged prostate removed by me in this operation a well-defined circular groove is noticeable at the junction of the intra- and extra-vesical portions. This is caused by the constriction of the growth by the sharply defined edges of the sheath which become sickle-shaped on either side as the prostate shoulders its way into the bladder and by the sphincter muscle. It appears to me that the conformation of the sheath superiorly largely influences the shape of the growth in the bladder. Sometimes this assumes the form commonly known as a "middle" lobe which, as can be seen from the specimens, is not a middle lobe at all—there being no such structure in the normal prostate, as pointed out by Sir Henry Thompson more than 40 years ago—but an outgrowth from one, or both, of the lateral lobes. More frequently, however, there is a protrusion of each lateral lobe into the bladder and this may advance to such an extent that one half, or even more, of the enlarged prostate may lie in this viscus. These, briefly, are the anatomical and pathological considerations on which my operation is based, a comprehension of which is necessary in order to follow me in my description of the details of the procedure. They are fully described in a very able paper recently communicated to the Royal Medical and Chirurgical Society by Mr. J. W. Thomson Walker.[1]

My ideal operation consists in enucleating the enlarged prostate entire in its true capsule out of the encasing sheath, leaving the urethra with its accompanying structures behind, though, as will appear subsequently, in more recent developments I have shown that the prostatic urethra may be torn, partially or even entirely removed, with equally good eventual results. To accomplish the ideal operation suprapubic cystotomy is performed after first thoroughly washing out the bladder with antiseptic lotion, as in these cases it is almost invariably septic. The catheter which is employed for the latter purpose, as well as for inflation of the bladder preliminary to performing the cystotomy and which should be of rather stiff gum-elastic and of the largest size which the urethra will admit, is left *in situ*. The forefinger of one hand is then introduced through the wound and a general survey of the interior of the bladder is made. The forefinger of the other hand is next introduced into the rectum to render the prostate prominent in the bladder and to keep it steady during the manipulation by the first hand. The mucous membrane over the most prominent portion of one lateral lobe or over the so-called "middle" lobe, if there be but one prominence, is scored through by the sharpened finger-nail and gradually detached by it from the prominent portion of the prostate in the bladder. As I have already explained, this portion of the enlarged prostate is covered merely by mucous membrane, so that when this is scraped through and detached the true capsule of the prostate is at once reached. Keeping the finger's point in close contact with the capsule, the enucleation of the prostate out of the enveloping sheath outside the bladder is proceeded with by insinuating the finger-tip in succession behind, outside, and in front of one lateral lobe, thus separating the capsule from the sheath. The finger is then swept in a circular fashion from without inwards, in front of and to the inner side of the lobe, detaching this from the urethra, which is felt covering the catheter, and pushed forwards towards the symphysis between the lateral lobes which will, as a rule, have separated along their anterior commissure in the course of the manipulations. The other lobe is attacked and treated in the same manner. The finger is next pushed well downwards behind the prostate and the inferior surface of the gland is peeled off the triangular ligament. When the prostate is felt free within its sheath and separated from the urethra, with the finger in the rectum, aided by that in the bladder, it is pushed into the bladder through the opening in the mucous membrane, which during the manipulations will have become considerably enlarged. The prostate, which now lies free in the bladder, is withdrawn by strong forceps through the suprapubic wound. And here I may remark that it is astonishing through what a comparatively small suprapubic wound a very large prostate can be delivered,

[1] Brit. Med. Jour., July 2nd, 1904.

owing to the elasticity and compressibility between the blades of the forceps of the adenomatous growth. Sometimes the lobes become detached along both anterior and posterior commissures and come away separately. The ejaculatory ducts are left uninjured when the lobes come away separately, but they are generally torn across or pulled out of the prostate when the organ is removed as a whole—a matter of trifling importance at an age when, as a rule, the reproductive powers are lost.

I have abandoned the employment of any cutting instrument for incising the mucous membrane, finding the finger-nail most convenient and expeditious. Besides, when scissors or scalpel are employed there is danger of entering the capsule, and the guiding line being thus lost the finger flounders about inside enucleating isolated adenomatous tumours instead of the whole organ in its capsule. There is, as a rule, very little bleeding from the operation and this is controlled by irrigation with hot lotion through the catheter. It is astonishing with what rapidity the large cavity left by the removal of the prostate practically disappears, owing to the inherent elasticity of the sheath, the contractility of the surrounding muscles, and the pressure of the pelvic structures generally; so that by the time the irrigation is completed the cavity has almost entirely disappeared, its walls closing in and embracing the urethra. The contraction that takes place somewhat resembles that of the womb in parturition and no doubt has a similar influence in checking hæmorrhage. The contraction of the cavity will be greatly facilitated by pressing its edges together between the points of the fingers in the bladder and rectum respectively immediately after the removal of the prostate. A stout drainage-tube is placed in the bladder through the suprapubic wound for a few days; the abdominal wound is brought together by sutures and the patient swathed in cotton- or wood-wool dressings. The bladder is irrigated daily with an antiseptic lotion through the drainage-tube till that is removed and then through the suprapubic fistula till that is closed, when automatic flushing of the bladder by the urine takes place. I do not leave a catheter in the urethra. Space will not permit of my giving details of more than a few cases illustrative of what may be accomplished by this operation.

CASE 5.—This patient, aged 75 years, came from France for operation on the advice of the late Dr. R. Cox of Reading and Dr. J. A. Philip of Boulogne. He had been completely dependent on the catheter for 14 years, during which time he had had repeated attacks of cystitis and hæmaturia. He had much difficulty in introducing the catheter, which latterly he had to use every half-hour night and day. A specially long catheter was necessary, from 14 to 16 inches being introduced before the urine flowed. The urine was putrid from pus and blood and the patient was emaciated and in great agony. As Dr. Philip wrote: "It was only his fine constitution that enabled him at his age to survive a period of martyrdom which was increasing in severity." The prostate felt enormously enlarged per rectum and the kidneys were tender and probably much affected.

On Sept. 6th, 1901, with Mr. C. C. Braine as anæsthetist, I removed the entire prostate (Fig. 1) in its capsule in the manner already described. The operation lasted half an hour. There was no collapse and on waking from the anæsthetic the patient began to laugh and to joke. The temperature never rose above 100°F. and remained normal after Sept. 12th. Six ounces of urine passed naturally on Oct. 7th and the wound had closed by the 17th. On Nov. 3rd he returned to France. On April 14th, 1903, he wrote: "I am perfectly well with regard to my bladder and suffer no pain or inconvenience from it, and pass my urine as well as I ever did before the prostate troubles." In September, 1903, two years after the operation, I spent part of the day with him in France; he was then in excellent health and as fine a man of his age as one could meet. On July 3rd, 1904, he writes: "I am keeping very well, in fact never felt better in my life."

FIG. 1.

Enormous prostate, weighing 10¼ ounces, removed from a patient aged 75 years; exact size. The catheter shows the position occupied by the urethra. Portion AA' BB' lay in the bladder and BB CC' lay outside the bladder.

The prostate (Fig. 1) is an enormous one, weighing 10¼ ounces. This is the largest specimen which I have removed.

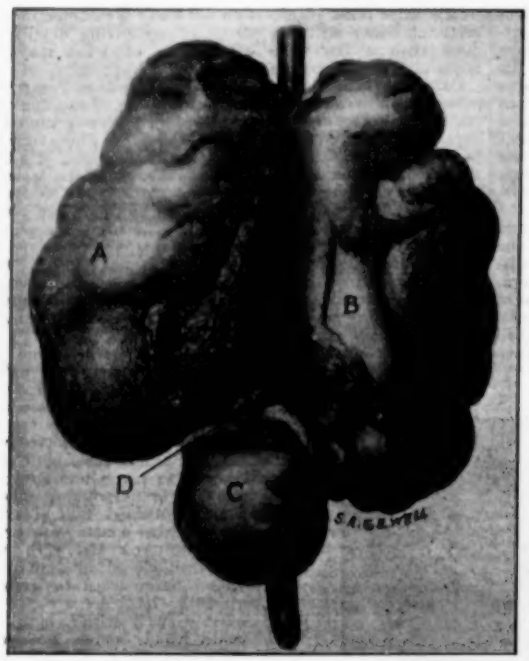
[Since this was written I have removed successfully two larger prostates, weighing 10½ and 14¼ ounces respectively.]

CASE 6.—The patient, aged 76 years, was sent to me by Mr. J. N. Frood of Tapsham, Devon. He had employed a catheter for 13 years and had been completely dependent thereon for three and a half years. There were great pain, hæmaturia, and difficulty in introducing the catheter, in consequence of which he used to leave it in the bladder all night. He was extremely feeble and was worn to a skeleton from continued suffering. The urine was putrid, containing much pus and blood. The prostate was felt to be greatly enlarged per rectum and a stone was detected on sounding. The patient was so weak that I feared to undertake any cutting operation, so I removed the stone—a hard urate calculus weighing

508 grains—by litholapaxy on Sept. 7th, 1901. A good recovery ensued but the urine was still entirely passed by catheter.

As the patient was most insistent on having his prostate removed and willing to undergo any risk attaching thereto, and as his general health had much improved since the

FIG. 2.



Prostate, weighing three and a quarter ounces, removed from a patient aged 76 years; exact size. B, Right lobe. A, Left lobe, continued into the bladder in the form of the so-called "middle lobe," C. D, pedicle uniting C and A.

litholapaxy, I operated on Oct. 10th, 1901. I found a well-marked prominence of the left lobe (Fig. 2, C) projecting into the bladder and acting as a ball-valve to the orifice. The two lobes were detached along both commissures and came away separately. The patient made an excellent recovery, urine passing naturally on Oct. 29th and the wound being firmly closed by Nov. 14th. On his return home Mr. Frood wrote: "The operation has been a magnificent success. My hopes and anticipations from reading your lecture in the *British Medical Journal* have been fully realised." I have heard from this patient recently. He is in excellent health, is a stone heavier than he ever was before the operation, and can pass and retain urine quite naturally. On July 2nd, 1904, he wrote: "I am pleased to tell you that I have no bladder trouble or with my water which is healthy and quite free from any sediment whatever." The prostate (Fig. 2) weighs three and a quarter ounces.

CASE 25.—The patient, a man, aged 68 years, came from Argyllshire to consult me on Nov. 17th, 1902, on the advice of Mr. G. Henderson of Kirn. There had been prostatic symptoms for nine years and the urine had been drawn by catheter entirely for six years. During the last three years there had been frequent attacks of cystitis and hæmorrhage, blocking the catheter, which had to be passed every hour day and night. The pain had been excruciating, requiring morphine to subdue it, and the urine was thick with pus and mucus. "Is now in such a state," wrote Mr. Henderson, "that he would submit to anything rather than go on suffering as at present." I drew off a couple of ounces of urine thick with pus, mucus, and blood, and of a fearful stench, and with the soft catheter detected calculi in the bladder. Upon sounding it was found that many calculi were present. The prostate was enormously enlarged per rectum, bilobed, rather hard, nodulated, but moveable. The patient was emaciated but wiry.

On Nov. 29th, assisted by Mr. D. S. Wylie, Major S. F. Freyer and Major C. W. Johnson being present, I opened the bladder suprapubically and found it full of calculi—like a cup full of pebbles from the sea-shore—varying in size from a hazel nut downwards, each faceted and all composed of phosphates. These I extracted by forceps and scoop, the process being a lengthy one, occupying 35 minutes. There were 96 whole calculi counted besides the débris of many more, the whole weighing five and three quarter ounces. The prostate was then enucleated as a whole in its capsule, the lateral lobes separating along their anterior commissure and the urethra being left behind. The prostate was so large that it had to be divided into its two lobes by the finger to facilitate its removal. The enucleation and removal occupied five minutes. Though there was free bleeding during the removal of the calculi there was practically none during the removal of the prostate. Convalescence was established without any rise of temperature or other unfavourable symptom. Some urine passed naturally on Dec. 6th and the whole of it thus on and after Dec. 12th. On Dec. 30th the patient travelled home to Argyllshire in perfect health, having put on much flesh and being able to pass and to retain his urine naturally. On July 2nd, 1904, he wrote: "I am glad to say that I am A1—50 pounds heavier than when you first saw me, Nov. 15th, 1902. My everlasting gratitude to you." The prostate (Fig. 3) weighs six and a half ounces. The catheter shows the tortuous shape of the urethra. The end of the right lobe (B) projecting into the bladder is ulcerated, the result of the calculi.

In my first seven cases of this operation the prostate was removed entire in its capsule, leaving the urethra behind. I now pass on to the eighth case, which presents a peculiarity of far-reaching importance in the development of the operation, for though in the removal of the prostate as a whole the urethra was torn across no untoward result ensued, the patient making a thorough recovery.

CASE 8.—This patient, aged 65 years, had a history of prostatic symptoms for ten years, much aggravated during the last two and a half years, particularly as the introduction of the catheter caused hæmorrhage. The prostate was felt to be enlarged greatly per rectum, tense, elastic, smooth, globular, and quite moveable. Cystoscopic examination revealed an irregular bulging into the bladder all round its neck.

On Dec. 11th, 1901, I operated. After enucleating the prostate in its capsule from the sheath all round, I felt the catheter passing through its axis (the urethra) and that the lobes had not separated either along the anterior or posterior commissure. Passing my finger along the anterior commissure, counter pressure being made by the finger in the rectum, I endeavoured to separate the lobes, when suddenly the whole mass was propelled into the bladder. The urethra was then felt covering the catheter but severed at its vesical end. On examination of the prostate after removal I found that it was pear-shaped and that it had been drawn from the urethra, which was severed at the neck of the bladder, just as a bead is drawn from a string. There were more hæmorrhage and shock than in the previous cases but the patient made a thorough recovery. Nine months after the operation I had the pleasure of showing this patient at the East Anglian branch of the British Medical Association. He was in perfect health, able to pass and to retain his urine as well as he ever did, and recently I have seen him in excellent health, untroubled by any urinary symptom. On July 1st, 1904, he wrote, "I am pleased to tell you how well I am. I have had no trouble with the urine since my operation."

The success that attended the case just recorded, in which the urethra was undesignedly severed, emboldened me to tear the urethra across deliberately and even to remove a portion or the whole of the prostatic urethra with the prostate, and I have found that this can be done with impunity and with the happiest results. The instances in which this procedure becomes necessary are those in which the enlargement of the prostate has not sufficiently advanced to loosen and define the lobes along their anterior or posterior commissure; when

the urethra is stoutly adherent to the lobes as a consequence of previous inflammation; and when through inflammatory changes the capsule and sheath are so adherent that they cannot be separated throughout their entire extent. In these latter cases I have removed not only the entire prostate with its capsule but also a thin band of the sheath or recto-vesical fascia outside this with perfect success, as the following examples will illustrate.

CASE 28.—On Nov. 16th, 1902, I was summoned to Stockport to see a patient in consultation with Dr. Hyde Marriott of that place and Mr. F. A. Southam of Manchester. Prostatic symptoms had been present for seven years, the catheter having been used from two to four times daily for five years; latterly, this was attended by much difficulty of introduction and hæmorrhage. The patient had suffered from retention of urine in Brussels in the previous summer, when 26 ounces were drawn off by a Belgian surgeon; subsequently profuse hæmorrhage had occurred, necessitating the tying in of a catheter for four days, when the patient's life was despaired of. Latterly the bleeding had increased in frequency and when I saw him in consultation he was confined to bed from weakness caused thereby. I passed a coudée No. 8 and drew off eight ounces of blood-stained urine containing pus and mucus. On sounding the bladder no stone was detected. The prostate was felt to be enlarged greatly per rectum, bilobed, smooth, tense, soft, and moveable. In consultation it was decided that the case was one suitable for removal of the prostate, the only drawback being that the patient was very stout.

On Dec. 4th he was sufficiently strong to travel to London and on the 8th I removed the prostate, Major Freyer and Dr. Marriott assisting. The prostate came away entire, together with a thin layer of the recto-vesical fascia or sheath outside it, which was adherent from old-standing inflammation. The prostatic urethra was also removed. Nine minutes elapsed from the time of taking the knife in hand to open the bladder suprapubically to that of the prostate being delivered from the bladder. Some urine passed naturally on the 20th and was wholly passed by this channel on the 24th, after which the suprapubic wound did not reopen, and convalescence was established without rise of temperature. The only interruption to the progress of the case was an attack of biliary colic with jaundice, for which the patient was seen by Sir Thomas Barlow with me; this gradually subsided. After Jan. 3rd, 1903, the patient walked out daily and on the 8th he went home to Stockport, able to pass and to retain his urine naturally. I have seen this patient on several occasions since then. He is in perfect health, is untroubled by any urinary symptoms, and is actively engaged in his business. The prostate (Fig. 4) weighs five and a quarter ounces.

FIG. 3.

Prostate weighing six and a half ounces removed from a patient aged 68 years; actual size. B, Right lobe. A, Left lobe. The vesical end of B shows an ulcer caused by the calculi. The catheter shows the tortuous course of the urethra.

CASE 38.—The patient, who was 57 years of age, was admitted to St. Peter's Hospital on March 10th, 1903. He had had retention of urine six years previously and the usual prostatic symptoms since then gradually increasing. The catheter had been in habitual use for two years and the urine had been entirely passed in this way for 12 months. There had been difficulty in passing the catheter. The prostate was much enlarged per rectum, bilobed, soft, tense, moveable, and felt greatly enlarged bimanually.

On March 18th I removed the prostate (Fig. 5) entire. The capsule was adherent to the sheath and in the enucleation a thin band of the latter (C) was removed with the prostate as well as a portion of the prostatic urethra. The patient made an excellent recovery; he began to pass urine naturally on the 30th and the wound was dry on April 6th. He was discharged on the 18th. I had the pleasure of showing the patient at the Medical Graduates' College in May, 1903, in perfect health and able to pass and to retain his urine quite naturally. On July 1st, 1904, he writes: "I am glad to say that I have no urinary trouble and that the operation was most successful and my health has been good." The prostate (Fig. 5) which weighs six and a half ounces is a fine specimen of the non-symmetrically enlarged organ, the right lobe (A A') being enormously enlarged in the bladder and forming a pistol-shaped valve (A) to the urethral orifice. The great size of the prostate is remarkable in a man of the age of the patient.

One of the most remarkable features of this operation is the complete restoration of the power of voluntary micturition after habitual catheterism had been employed for lengthened periods. It may be of interest to quote the opinions of two eminent surgeons, one in this country and one on the continent, as to the possibility of this occurring. The late Sir H. Thompson, in the last edition of his "Diseases of the Urinary Organs," writes:—

> When it has been necessary to practise habitual catheterism for retention from enlarged prostate during a period of one or two years, the coats of the bladder lose their power and are incapable, I believe, of regaining it in almost any case after that lapse of time and would fail to expel their contents even supposing the obstruction to be entirely removed. There is good ground for believing that no operation would restore a *status quo*, on account of our inability to restore the expelling function to a bladder which has long ceased to exercise it.

And M. Guyon in his "Leçons Cliniques" (1888) writes:—

> Voyez, en avant, ces lourdes masses qui représentent les lobes latéraux, fortement appliqués l'un contre l'autre et qui opposent un obstacle certainement plus considérable que le lobe moyen à l'écoulement de l'urine. *Croyez-vous qu'il soit jamais possible d'en pratiquer aussi l'ablation?* Et quand un tel prodige opératoire deviendrait réalisable, *croyez-vous que la vessie, après avoir été plus ou moins longtemps soumise à la distension, pourrait recouvrer son intégrité anatomique et fonctionnelle?* Croyez-vous que les lésions histologiques dont sa couche musculaire et sa muqueuse sont atteintes, et celles qui portent sur la substance rénale, seraient aussi susceptibles de rétrograder? Il est évident que toutes ces lésions, et vous savez qu'elles sont à peu près constantes, mêmes dès le début de la maladie, ne peuvent relever d'aucune intervention opératoire, et *je puis ainsi conclure que le traitement radicale de l'hypertrophie de la prostate n'existe pas et ne saurait exister.*

The italics are mine. The very decided opinions expressed by these two distinguished surgeons—opinions based on purely theoretical grounds—have, happily, been entirely falsified by the results of these cases; for not only has the enlarged prostate been ablated in each instance, but the expulsive power of the bladder has been completely restored after that power had been lost for periods varying from a few months to 24 years. It was therefore a source of much pleasure and satisfaction to me to receive from Sir Henry Thompson a letter intimating his conversion to my views in the following words:—

> I am much obliged to you for sending me your lecture and cannot resist the evidence you have produced that the operation of total extirpation of the prostate is possible and has led to excellent results.

And again :—

I am surprised by the results which you have found in your cases of power to empty the bladder by the natural powers which were not believed on *a priori* grounds by my old friend Guyon and myself to exist.

I have now performed this operation in 110 cases, the patients varying in age from 53 to 84 years, the average age being a little over 68 years, and the prostates weighing from three-quarters of an ounce to 14¼ ounces, with an average weight of three and a quarter ounces. The vast majority of the patients had been entirely dependent on the catheter for periods varying up to 24 years. Nearly all of them were in broken health and many were apparently moribund when the operation was undertaken. The great majority of them were, indeed, reduced to such a wretched condition that existence was simply unendurable. Few of them were free from one or more grave complications, such as cystitis,

FIG. 4.

Prostate weighing five and a quarter ounces removed from a patient aged 63 years, actual size. AA' BB Lateral lobes covered by thin true capsule and encircled by thin band, C, of the sheath; removed with the prostate.

stone in the bladder, pyelitis, kidney disease, diabetes, heart disease, thoracic aneurysm, chronic bronchitis, paralysis, single, double, or even treble hernia, hæmorrhoids, &c. Such, then, were the unpromising conditions under which the operation was undertaken.

Examination of the prostates removed showed in three instances that the disease was malignant, though in only one case was there any suspicion beforehand of the true nature of the disease. One of these patients died 20 days after the operation when the wound was practically healed and when he was passing urine naturally. The remaining two made fairly good recoveries. Excluding these three instances of carcinoma, we have 107 cases of complete removal of the adenomatous enlargement of the prostate, 97 of which were successful. And when I speak of success I mean an absolute and complete success, the patients regaining the power of retaining and passing urine naturally without the aid of a catheter as well as they ever did. There are no half measures about this operation. The patient can be assured beforehand that if he is prepared to accept the comparatively small risk attaching thereto he can with absolute certainty look forward to a complete cure. In no instance has the patient failed to regain the power of voluntary micturition without the aid of a catheter. There has been no instance of relapse of the symptoms; on the contrary, lapse of time only seems to consolidate the cure. In no case has there been contraction at the seat of operation leading to stricture, nor has there been any instance of a permanent fistula remaining. In two instances only have distinct symptoms of septicæmia supervened—hospital patients who occupied adjoining beds—and I cannot help feeling that the poisoning in these cases was due to external and preventable causes. Considering that in nearly the whole of the cases the urine was septic, and in many putrid, before the operation this comparative absence of septicæmia is remarkable. To what are we to attribute this immunity? No matter how carefully the bladder is irrigated it is quite impossible to keep the wound thoroughly aseptic. It must be remembered that a very large proportion of aged men succumb to septicæmia on entering on what is commonly termed "catheter life." Possibly those that survive become more or less immune by gradual absorption of toxins from the septic urine that prevails sooner or later in all cases of habitual employment of the catheter.

There have been ten deaths in connexion with these 107 operations—viz., two from mania after the wounds had practically healed, the mania in one instance being hereditary and having set in before operation; one from heat stroke on the tenth day when the patient was convalescent; one from coma, due to retention of morbid

FIG. 5.

Prostate weighing six and a half ounces removed from a patient aged 57 years; actual size. AA' Enormously enlarged right lobe terminating in pistol-shaped projection, A, in the bladder. BB' Left lobe. C, Thin band of sheath removed with the prostate.

products of the urine which had set in several days before the operation; one from pneumonia seven days after the operation; one from heart failure six hours after the operation, the patient, aged 74 years, having been worn out from 15 years' fearful suffering; one from advanced interstitial nephritis with greatly dilated pelves and calyces ten days after operation; one suddenly from heart failure after progressing most favourably for 12 days, the necropsy revealing aortic incompetency and interstitial nephritis; and two from septicæmia 13 and 65 days respectively after operation, the

necropsy revealing extensive interstitial nephritis in the latter case.

Though these deaths are recorded in connexion with the operation, in four, or at most five, only can the fatal result be possibly attributed thereto, the remaining deaths being due to diseases incident to old age. This operation is comparable to none other in surgery, owing to the advanced age to which it is necessarily confined—only four of the patients were under 60 years of age—and the broken-down constitution of the patients from prolonged suffering; and in judging of the mortality connected therewith we must not lose sight of the fact that during the after-treatment and convalescence men of this age are peculiarly liable suddenly to be carried off by disease entirely unconnected with the operation, the occurrence, however, vitiating the results from a statistical point of view.

But even if we accept all the deaths in connexion with the operation this would give only a mortality of about 9 per cent., which is much less than the mortality from lithotomy in all ages combined (12½ per cent. according to statistics collected by Sir Henry Thompson) and about one-fourth of the mortality from lithotomy in the corresponding ages (33½ per cent. according to Sir Henry Thompson). If the operation were undertaken in selected cases only—cases in which the general health was unimpaired—the mortality might be still further much reduced, but any such restriction is in my opinion unjustifiable, as it would have the effect of excluding five-sixths of the patients who at present seek relief from this operation. As the operation becomes more widely known and more popular patients will no doubt seek relief therefrom at an earlier period of the disease, whilst their constitutions are sound and, above all, the kidneys unimpaired, with a much greater prospect of success. Increased experience and dexterity in operating, improvement in the details of the after-treatment, and a greater perfection in the nursing are all factors that will undoubtedly tend to reduce still further the death-rate. I may mention in this connexion that I have had a recent series of 28 consecutive cases of the operation without a death.

In conclusion, I submit that the results of this operation—so subversive of all preconceived ideas regarding the enlarged prostate, so revolutionary in its effects, so complete and permanent in its cure—are truly remarkable. They are far beyond anything I could have hoped for at its inception. I believe that I shall not be accused of exaggeration when I state that all previous so-called methods of radical cure of enlarged prostate were utterly unsatisfactory and that catheterism, though hitherto the least objectionable mode of treatment in the majority of cases, is certain sooner or later to terminate in cystitis and other dangerous complications. The successful results obtained in this large series of cases of total enucleation of the enlarged prostate encourage us in the hope that we have at last arrived at a rational and practical method of dealing with one of the most painful, pathetic, and fatal diseases.

Harley-street, W.

THE METHOD OF CLOSING AN ABDOMINAL WOUND.[1]

BY JOHN D. MALCOLM, M.B., F.R.C.S. EDIN.,
SURGEON TO THE SAMARITAN FREE HOSPITAL.

THE method of closing an abdominal wound is a matter of great importance because of the distress and danger that may follow faulty union and because of the diversity of opinion as to how to obtain the most satisfactory results. Spencer Wells began by closing his wounds with hare-lip pins but he soon gave these up and employed interrupted sutures, the ends of which were passed from within outwards through all the structures on each side of the incision with the exception of the muscle. A series of such sutures about half an inch apart, when drawn tight and tied, closed the wound very neatly; and this method, with the inclusion of all or part of the structures of the abdominal wall, was the only practicable procedure until the antiseptic system of surgery was perfected. With antiseptics, sutures may be safely buried; and for many years some form of suturing the abdominal wall in layers has been in vogue. There are, however, surgeons who have adopted this plan and have not found it satisfactory and who therefore have returned to the method by interrupted sutures taking up the whole thickness of the abdominal wall. The reason given for the return to an earlier practice is that buried sutures lead to unsatisfactory healing of wounds and to stitch abscesses—in fact, to difficulty in obtaining freedom from septic infection. Such difficulties are generally due to a fault in the preparation of the ligatures employed or to fouling of the wound or of the ligatures in applying them. Such fouling may in some circumstances be unavoidable but in all cases in which the patient has no septic disease before the operation it should be possible to prevent infection and in a very large proportion of cases in which the operation is performed for the removal of a septic condition the surgeon should be able to insure union by first intention. When a wound is sewn up in layers there is a possibility that blood or serum may collect between the layers. A hæmatoma or a serous effusion would, as a rule, become absorbed but if very large an escape might be effected between the lips of the incision and infection of the wound would be apt to follow if there had been the slightest imperfection of the antiseptic precautions employed. There is another question of some importance in connexion with buried sutures which I think is deserving of attention. I have on various occasions, perhaps six or eight times in all, seen silk ligatures in the peritoneal cavity which did not seem to cause any septic mischief and certainly did not cause suppuration but which, nevertheless, remained as foreign bodies in the tissues for months and even for years and which sometimes were a source of pain. It may occasionally be difficult to be certain that such ligatures are unconnected with the condition for which a second operation has been necessary, but there is no doubt that silk ligatures may remain in the tissues unabsorbed and usually harmless, although sometimes causing tenderness, for an indefinite period. The following case proves conclusively that these sutures may remain apparently unaltered and harmless.

On July 14th, 1897, I removed both ovaries from a woman who had suffered from constant pain and frequent irregular hæmorrhages for many years. The result of this operation was as satisfactory as could be wished for and until the middle of 1902, that is to say for five years, the patient's health was very good. She then began to suffer from pain in the right side and this continued for over a year before I saw her. I diagnosed an inflamed vermiform appendix and removed it on May 31st of this year. In the right broad ligament, at the second operation, there were two ligatures locked so as to form a figure of eight and one, about two inches long, with which I had sewn over the divided edges of the broad ligament. There was no evidence of irritation around these but the vermiform appendix was distended by fæces and its condition was undoubtedly the cause of the pain complained of before the second operation. The ligatures removed were apparently unchanged and they had been in the body six years and ten months.

I do not think that any form of sepsis can be held responsible for the persistency with which silk remains unabsorbed in such cases; but with the possibility that the silk may not be absorbed and with the further possibility that these ligatures may be a source of tenderness it seems to me that it is not desirable to bury silk ligatures when it is possible to avoid doing so. I was therefore until last year in the habit of using a single layer of sutures and the results seemed to me very satisfactory, but I was not able in every case to prevent the development of a hernia of the wound and I have during the last eight or nine months adopted a plan in every case which I have employed for eight or ten years in operating for the cure of herniæ in abdominal scars. The object to be aimed at is to get the various structures of the abdominal wall united so firmly that the cicatrix will not be weaker than any other part. To effect this the sutures must be so used as to fix the tissues as nearly as possible exactly as they were before the incision was made. It has also been suggested that the edges of the various layers should not only be apposed but should be made to overlap. This would give extra strength to the parts but it must sometimes be impossible on account of the traction necessary. In operating for the radical cure of an inguinal or femoral hernia the surgeon has, of course, to try

[1] This paper formed part of a lecture delivered at the Polyclinic on June 30th, 1904.

to improve upon the condition he finds and to strengthen the wall but these cases do not come within the scope of my subject. The strong fascia in front of the recti muscles seems to be the most important part of a good cicatrix. In cutting into the abdominal cavity through, or at the side of, a well-healed scar this fascia is always firmly united and in operating for small herniæ there is never any protrusion at the parts where the opposing edges of the anterior fascia have formed a strong cicatrix. To obtain the best results something may be done in making the incision and in selecting its position. It is desirable whenever possible to separate the fibres of a muscle rather than to divide them and it is often feasible to push aside the belly of a muscle so that when the wound is closed it will resume its position and form a strong barrier between the superficial and deep parts, which must, of course, be sewn up separately.

In making an incision, therefore, I usually avoid the middle line, preferring to cut down on the rectus muscle and divide it with my fingers, using the knife only if one of its tendinous intersections has to be divided. In these circumstances a contraction of the muscle draws its divided fibres together. In operating on a gall-bladder it is also better to make the incision through the rectus, because if it is outside this, contractions of the abdominal muscles tend to drag the opened surfaces apart. Before closing the wound all hæmorrhage should be arrested as completely as possible. In a long operation this is, as a rule, easily effected by leaving pressure forceps on each bleeding point. If there are any vessels still bleeding at the end of the operation they may be effectually closed by torsion. The first ligatures I insert are passed in through one side of the incision and out through the other side with an interval of one or two inches between—nearer if the abdominal wall is thin and further if there is much fat. In passing these sutures the fact must be kept in view that when a cord is tightened around soft tissues it always tends to assume a circular shape. If the tissues were sufficiently elastic and the cord was sufficiently tight it would become an exact circle because in that shape it includes a larger area than in any other. Hence if we follow Spencer Wells's teaching and "each needle is introduced from within outwards, through the peritoneum and the whole thickness of the abdominal wall, at about one-third of an inch from the cut edges of the peritoneum and skin on either side—pinching up peritoneum and skin together, so that the silk may be carried through both without perforation of the recti muscles,"[2] the result must be, as the ligature is tightened, that the peritoneum and skin and any other parts included will be bunched together and the muscles will be pushed aside. The best method of inserting these sutures is to make them enter near the skin edge and pass deeply into the structures of the abdominal wall so as to describe a semicircle, or even the end of an ovoid, before being brought out close to the edge of the peritoneum, a similar deep grip of the structures being, of course, taken on the other side also. When a suture thus inserted is tightened there is no tendency to approximate peritoneum and skin, but the cut surfaces are apposed exactly, or at least they would be if there was no difference in the resistance of the individual layers. This plan certainly affords more exact apposition than any other form of suture in a single layer. When these sutures are inserted in sufficient numbers the peritoneum and the fascia in front of the rectus are united by removeable continuous sutures inserted in the following manner, which I saw first described by Dr. W. H. Haughey of Battle Creek, Michigan,[3] but which I had used before his description was published. A silk ligature is passed from the skin, entering at some distance from the end of the incision so as to pass obliquely to the opening in the peritoneum. It is then made to take up the peritoneal edges in a continuous spiral suture so as to turn them outwards and leave no raw surface exposed in the peritoneal cavity. When the peritoneal edges are completely united the ligature is again carried obliquely to the skin. In closing the peritoneal cavity by this suture it is necessary to see that those previously inserted are drawn taut, so that they cannot afterwards include a piece of omentum or a coil of intestine, and great care should be taken that during the necessary manipulations they are not so loosened as to leave a loop inside the peritoneal cavity. When the peritoneal suture has been inserted it should be drawn backwards and forwards through the tissues so as to insure its easy removal afterwards. Another suture is next passed in exactly the same way as the last, but taking up the fascia in front of the rectus instead of the peritoneum. In inserting this suture I have frequently observed that the two edges of the divided fascia were at different levels from the surface and on taking up the interrupted sutures, which formerly I used to depend on entirely, and apposing the sides of the wound with them, on carefully examining the parts I have seen that a great belly of muscle would have been interposed between the divided edges of the anterior rectal fascia if no other suture was inserted. These observations have left me in no doubt that approximation of the surfaces by suturing them in layers is absolutely necessary to insure an accurate apposition of the various structures of the abdominal wall to the corresponding structures on the other side. Even if, by careful manipulation of the parts, they could be temporarily placed in accurate apposition, the first retching of the patient would certainly disturb this arrangement unless the individual layers were fixed in position by sutures. When the continuous sutures in the peritoneum and in the anterior rectal fascia have been adjusted and made to run freely the interrupted sutures are tied and the skin edges are accurately approximated by further sutures where these are necessary. Finally, the ends of the continuous ligatures are tied together above and below the wound.

The advantages of this method are: 1. That the interrupted sutures, by apposing the whole of the cut surfaces, prevent the formation of a hæmatoma or a collection of serum between them. 2. That exact apposition of the layers and especially of the divided edges of the anterior sheath of the rectus is attained. 3. That in case a wound does become infected the sutures are all removable.

I have an excellent example of the importance of the latter point under my care at the present moment. A woman, aged 60 years, with a large fibroid which had been known to exist for ten years before I saw her, had been very ill for the last six months and I removed the uterus with the fibroid which had completely broken down and contained a cavity about nine inches in diameter, full of very foul-smelling grumous material. The uterine cavity was distended and also full of putrid fluid. Its inner surface was invaded by carcinomatous new growth. It was impossible to avoid opening the uterine cavity in the course of the operation. I exercised all the care I could to prevent fouling of the tissues and there has been no evidence of infection of the peritoneum but a large abscess formed in the anterior abdominal wall. If I had used buried sutures of any kind the chances are that this wound would not heal until these were removed and probably this could only be done by operation if the sutures were continuous. As it is, there are no sutures in the abdominal wall and I hope the wound will soon close. It has already within a fortnight of the operation assumed a healthy aspect. [This wound is now (July 18th) quite superficial.]

The disadvantages of the plan I have described are that there is a tendency to pull the peritoneum forward but if the sutures are brought from the end of the peritoneal scar to the skin very obliquely this forward traction must be very slight. There is no danger from this in the case of the firm aponeurosis in front of the rectus muscle and it should be noted that if the peritoneal suture is carried away obliquely until it pierces this fascia it may then be carried straight to the skin as the fascia will not yield and traction on the peritoneum will still be in the line towards the point where the suture pierces the fascia. Moreover, the tendency to pull the peritoneum forward is obviated if the interrupted side sutures take a sufficient grip of the muscle on each side and push its divided surfaces together in front of the peritoneal incision, or if the muscle has been dragged aside and replaced in front of the peritoneum. There is sometimes a little difficulty in removing the continuous sutures in a long wound but this has never been serious in my experience. It is well, however, to use fairly strong silk. I leave these sutures in for about 14 days. I almost invariably employ silk. It can be used without fear of sepsis if properly prepared and if the patient has no septic surface that must be exposed. On the other hand, when a wound is fouled by septic matter any other form of suture will keep it open as certainly as silk. In operating on herniæ in abdominal wounds I have occasionally buried the silk sutures so as to insure approximation of the peritoneal and fascial divided edges as long as the sutures

[2] Ovarian and Uterine Tumours, p. 330.
[3] Journal of the American Medical Association, Feb. 20th, 1897.

remain unabsorbed. I do not fear sepsis in such a case but I think the suture might sometimes remain unabsorbed and cause pain. Some surgeons bury continuous or interrupted sutures of hard material, such as wire or silkworm gut. This seems to me a mistake and I have seen cases in which the ends of such sutures caused serious discomfort—a result which might, I think, have been expected. A method of suture very commonly adopted is that by buried continuous sutures in three or four layers. My friend Dr. Walter H. Swaffield has published a little book which I would recommend all who are interested in this subject to read.[4] He has collected the opinions of 55 well-known German and Austrian operators. Those gentlemen employ some form of the sutures which I have described, singly or in all sorts of combinations. The most diverse opinions are held, some condemning one plan and praising another, whilst a few pages further on a quite different view is expressed.

I have not yet mentioned the method of Professor Pfannenstiel of Giessen described in Dr. Swaffield's book. He used it, at first, for small operations only, but now it is his method in "almost all cases." He makes a transverse incision above the pubes with the ends curving upwards. This is carried down to the muscle and a flap is dissected up. A vertical incision is then made through the linea alba and peritoneum. The peritoneum and muscle are closed by means of a continuous catgut suture. The transverse incision is brought together by a series of figure-of-eight stitches uniting anterior fascia in one loop and skin in the other. Figure-of-eight sutures would act very well in this way. I have used them occasionally to take up the peritoneum in a very small loop and the rest of the abdominal wall in a large loop. The practical effect is that the curve of the suture is not interrupted but the peritoneum is twisted and its opposite surfaces are held closely together if they do not tear. Tearing of the peritoneum is a serious difficulty in some cases and is particularly apt to occur in incisions over the gall-bladder, where the tendency to retraction of this membrane is great. Fortunately the deep fascia in this situation is well marked and by taking it up with the peritoneum a firm union may be effected. It is also fortunate that in this situation a little raw surface left in the peritoneal cavity, if it causes adhesions, seldom gives rise to serious difficulties, as the transverse colon or omentum is usually the part involved and an extra fixity of these is generally unimportant. The stronger the deep fascia is the more necessary it is to adjust its edges exactly. In all small herniæ of wounds it is a ring of fascia that causes the chief danger. In the middle line above the pubes such a ring only occurs in the anterior fascia, and I have already pointed out that in the sound part of the scar this fascia is always well united, but where the deep fascia is strong it is possible that a hernial ring might form in it and the sac might lie between the deep fascia and the muscle. It should be remembered that there is much difference in the strength with which a wound heals in individual patients and in the rapidity with which firm union is effected. This personal equation is certainly the chief difficulty in some cases. Patients should, therefore, have the abdomen well supported for a considerable time after the operation. I have operated on a hernia which developed in a scar 13 years after an abdominal section. I have no knowledge of the condition of this wound until after the rupture formed. The accident was precipitated by lifting a heavy box. Professor von Eiselsberg of Vienna relates of one of Billroth's cases that about four years after the removal of a uterine fibroid the patient whilst lifting some load burst her wound and a loop of intestine prolapsed.[5] Even union of the incision in layers does not absolutely remove the risks of the formation of a hernia. I have operated on a wound which had been sewn up in layers by means of interrupted silkworm gut sutures but in which a hernia had formed and I found some of the sutures on one side and some on the other side of the rupture. Such cases emphasise the importance of this subject and the necessity for care in selecting a method and in carrying it into effect.

In conclusion, I would add that of the 55 views expressed in Dr. Swaffield's book referred to 44 were in favour of some form of suture in layers. The fact that so many differences of opinion exist on this subject still and the restlessness and desire for change that are shown in its literature seem to indicate that herniæ occasionally occur whatever method is used. Probably this is due to a fault in the tissues in some cases, but there is no doubt that a plan which approximates exactly the individual layers gives the best chance of a satisfactory result.

Portman-street, W.

[4] The Closure of Laparotomy Wounds as Practised in Germany and Austria, J. and A. Churchill, 1904.

[5] Swaffield, loc. cit., p. 64.

ON THE EDUCATION OF VISUAL CENTRES.

BY W. HAMILTON HALL, L.R.C.P. LOND., M.R.C.S. ENG.

IT is, perhaps, not easy to obtain clear ideas on the process whereby the "visual centres" acquire the power of vision, using vision to mean accurate perception of minute detail in the simplest degree. This faculty of instant recognition is usually deemed to be rather in the nature of judgment or intellectual perception than a matter of sight pure and simple, and it seems therefore worth while to describe in some detail an instance in which it can hardly be denied that imperfection of this faculty lay in the "visual centre" of one eye exclusively.

The patient, a woman about 30 years of age, may fairly be taken as an individual of neither high nor low intellectual power. It is plain that she was not quick and was honest—too honest to guess at the test types, which was useful; not quick enough to remember the types that she had seen shortly before, even more useful. Further, it appeared from the observed facts that "normal vision"—apart from mere eye-optics—is not at all, or but very slightly, a matter of experience general in the "intellectual" regions of the brain as a whole, but is largely a matter of experience in the "centre" itself. In the centre, moreover, it is not solely a matter of development of the centre, neither as simple material growth nor as functional activity; but also a matter of education, actual practice, in the absence of which the centre might be regarded as itself "intellectually" undeveloped, functionally active while functionally inefficient, for want of simple practice only, whereby it could have acquired dexterity in functionating. This patient had in one eye vision so poor that it must have been largely disused and she had never had any correction till 17 years of age, although there was marked hypermetropic astigmatism in both eyes. With the ophthalmoscope considerable general congestion could be seen and distinct "physiological" cupping. This eye under atropine had V. = $\frac{6}{24}$ imperfectly. Retinoscopy exhibited a necessity for + 5 D. sph. + 2 D. cyl. With that correction V. = $\frac{6}{18}$ after a fashion, and subjectively that combination was preferred to any other. But the cylinder alone gave V. = $\frac{6}{12}$, and the spherical diopters, added singillatim, gradually improved this only to $\frac{6}{9}$ badly. No explanation of this result could be discovered at the time. In view of the established spasm she had a fortnight's double mydriasis by way of rest. After that, returning accommodation being still weak, she could with the above correction read J. 10 badly and still at this experimental stage preferred that correction to others. But here an explanation of a sort offered, for it appeared that she was only partially able to read with this eye, and if formerly she had seen any letter on the distant types, that would be her vision at that range, whether she could read all the letters of the row or not. The Moorfield types being in use, she started off J. 10 quite cheerfully, "for the utility of which we had lost ....." Asked to begin again she read, "for the nobility which we had lost." Asked to spell the words, "of" was recovered, the remaining words were correctly spelt, but "making" she was unable to spell—could not see it, in other words. There was nothing amiss with the type and the illumination was satisfactory. All manner of shifts were tried, but even the familiar participial termination was not read accurately, "ion" being the nearest approximation, that was what it "looked like." By way of obviating mere worry we adjourned to "the cruelty of Barbara Allen. The right was concluded in the." Trying to spell, the last four words were correctly spelt, but though these words could be "seen" the "n" of "night" could not be read; it was as impossible to get this initial "n"—quite as plain as those of "concluded in"—as it

had been to get the initial "m" of "making." It will be observed that enough of that "m" had been seen to suggest "nobility," and now half the "n" is lost in giving "right" for "night," plainly indicating that here is a centre which can only read in an uneducated or unpractised manner, precisely as the intelligent child or ordinary half-illiterate accepts any word of like general aspect with that required.

Next, by way of demonstration that the fault lay exclusively in the "centre" served by the eye under examination and not in any general lack of intelligence on the part of the brain as a whole—attention was turned to the other eye. This was also far from normal and had not fully regained accommodation; but corrected up to objectively estimated requirements, + 3·5 D. sph. + 1 D. cyl., the patient read J. 1 perfectly in the remarkable English quoted from Froude on Cowell's Westminster test-types without one single blunder among the prepositional vagaries there set forth. It is, I think, unusual to find this read without hesitation or error, although the type is plainer and better in every respect than that of the Moorfields card. This eye, then, could read accurately, whereas the other could not; and the more defective eye, which could not read certain letters, could read the same letters otherwise combined. As a reading apparatus this eye was in a stage ill adapted to read any combination and completely at a loss when pressed to select the individual letters of one particular combination or another. Any results of "nervousness," "hysteria," "fatigue," or other such like conditions are apparently excluded by the perfect willingness to try, the extremely defined point of breakdown, and the accurate performance of the other eye afterwards. Still later, accommodation being perfectly restored under the same correction, this eye (centre) again failed at this simple word "making" only. That was at least ten days later, when the patient said she could see "quite well now."

This observation leads one to feel some very considerable degree of doubt what should be understood when, as so frequently happens, the patient does read two or three letters of the $\frac{6}{9}$ and $\frac{6}{6}$. It is usual, or was usual, to consider that he could not see the test if he read it inaccurately, and the glass was changed accordingly; very frequently with no improvement, and very frequently only to find that now he cannot read a letter which a moment ago he could read. Such observations of course have contributed to build up the general opinion that the patient's subjective statements are mostly untrustworthy and give no dependable information. But if the adult patient, though educated, is frequently in truth at the same stage as the child learning to read, so far as one of his visual centres may be concerned; if he is demonstrating in his maturity the "invincible stupidity" of the child who is being unduly hurried into reading invisible distinctions of type very often; then the reason for the extraordinary uncertainty of many patients at the test-types is not far to seek, for their visual centres may quite possibly be in a state of inability to recognise moderate differences with any readiness—a state very similar to that of the colour-blind, the defect being entirely beyond the eye and wholly "central" in some respect.

Taking another point of view, it is possible that "reading" is less easy than one would be disposed to imagine. "Plain as print" may be a legitimate figure of speech as between print and the handwriting of some people, but that much print is far from plain is unquestionable. The beloved "lean-faced" fount, the common or newspaper Roman, so constantly employed in books not deemed to merit type so sacred as the "revived old-face," is far too prevalent in school-books; and some of the American "faces" which one sees occasionally are skimpier than the worst native product. Even if Whittingham had not discovered for us 60 years ago that the broader types were infinitely more legible than the narrowed ugly founts with their absurd "neat" hair-line little better than German black-letter, still it is 20 years since some Frenchman laboured out the essentials of legibility, which anyone can study for himself in some of the evening papers—for example, the *St. James's Gazette* and the *Pall Mall Gazette*. If such a difference is readily perceptible to the normal educated eye it may amount to a very considerable handicap in the child and among those whose vision is poor as a result, or in spite, of all advantages of much book education. If it is a tenable proposition that for each eye a centre must painfully acquire the power of recognising even such gross differences as are presented by Snellen's types at six metres, it is no argument that some cultivated centres can easily distinguish one bacillus from another under the microscope. That is only evidence that education can achieve much; not that the education has been by no means required and attained. The net result of these discursive speculations would seem to be that, given large type and "fat," offering no needless difficulties to the eye as an instrument, the education of the centres served by that eye is a matter of some considerable importance to the development of that variety of intelligence which we gain by precise observation of visible detail.

Fordcombe.

THE RADICAL CURE OF UMBILICAL HERNIA.

BY B. G. A. MOYNIHAN, M.S. LOND., F.R.C.S. ENG.,
SENIOR ASSISTANT SURGEON TO THE LEEDS GENERAL INFIRMARY.

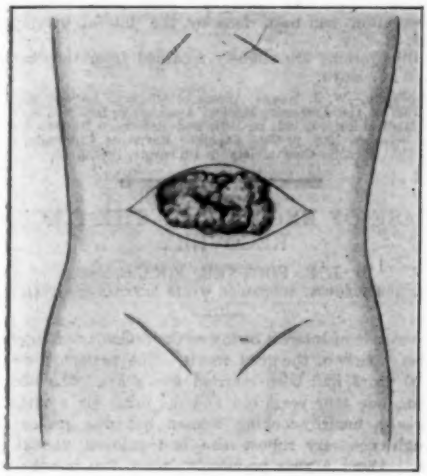
IT will be generally conceded that the operations at present practised for the radical cure of umbilical hernia fail not infrequently in their object. Recurrences are found to occur in a deplorably large number of cases. Berger whose estimate has been almost universally accepted, states that a relapse occurs in from 15 to 20 per cent. of cases when the hernia was small and in 30 per cent. of cases when the hernia was of moderate or large size. This frequency of recurrence after a so-called "radical cure" is unsatisfactory but by no means surprising when the methods of operation come to be considered. The great majority of the operations described in the best text-books—in those, for example, by Kocher, Jacobson, and Treves—do not contain any of the elements of success. The methods are so utterly unsuited to the ends to be attained that failure in a large proportion of cases would seem to be inevitable. In attempting to insure a closure of the neck of the sac the following is the method which is usually adopted (I quote from the best English text-book, Jacobson, fourth edition, vol. ii., p. 50): "The sac is carefully separated all round till its neck is cleared, the redundant part is cut away, and the peritoneum closed by means of a continuous suture of fine silk. The edges of the ring are now drawn firmly together in the same way by means of a continuous silk suture and finally the skin edges are united with horsehair or fishing-gut." As a result of this and all like operations the edges of the hernial orifice are brought into close apposition. These edges are fibrous and attenuated and are therefore little likely to unite firmly. There is, moreover, in many of the patients a very marked divagation of the recti. When it is remembered that the strain which the united edges have always to bear is considerable it is not in the least surprising that the thin linear scar proves unequal to withstand so great a force and that the hernia so often recurs.

Many surgeons have adopted some modification from the procedure already mentioned in the hope that a firmer and more enduring cicatrix might be produced. Condamin, Socin, and Sanger suggested that the sheath of the rectus bounding the neck of the hernia should be split by a vertical incision until the muscle fibres were exposed. In closing the wound three layers of sutures were then introduced, one picking up the posterior layer of the sheath of the rectus on each side, one approximating the muscles, and a third, the most superficial, uniting the anterior layer of the sheath. This method is a great improvement upon the original method. I have adopted it in several cases but I have now abandoned it in favour of the overlapping operation to be described presently. One difficulty that is apt to be encountered in this operation is due to the separation, often very wide, of the recti at and near the umbilicus. If a patient with an umbilical hernia be made, when recumbent, to tighten the recti in an attempt to rise the separation is at once perceived.

Daurinc suggested that the inner portions of the opposing recti should be overlapped. A broad band of each rectus is split off along the inner margin, cut free at the lower end, and the free end of the left flap is stitched across to the right side and *vice versâ*. After this operation the transplanted muscle becomes transformed into fibrous tissue, being bereft both of innervation and of nutrition, and a very weak and yielding scar is left.

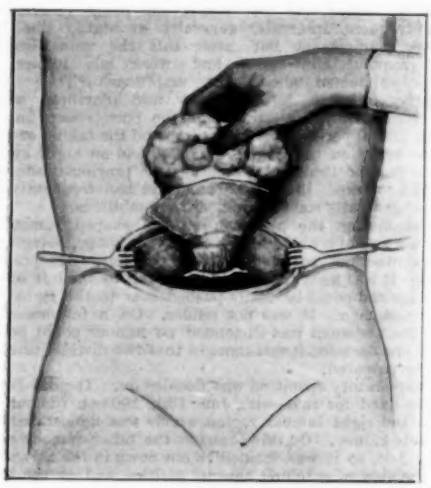
Barker was the first to suggest that an infolding of the rectus sheath by bringing together surfaces rather than edges would give increased strength to the line of union. He advised "the use of a double row of sutures—the first as given above to unite the edges of the ring; the second, to give extra strength to the scar, are passed through the anterior layer of the sheath of the rectus on each side at about one-third of an inch from the edge of the ring. On these being brought together a considerable fold of fibrous tissue is inverted and brought into contact in the middle line, over the first row which closed the ring." Lucas-Championnière adopted a similar plan. A series of sutures of the Lembert type were passed on each side of the margins of the wound so that the edges were infolded and a flat apposition of the anterior surfaces of the rectus sheaths resulted.

FIG. 1.



Umbilical hernia. The lines of incision.

FIG. 2.

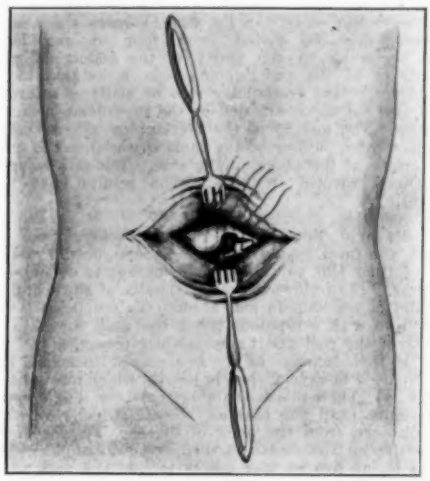


The hernia fixed at the neck. The lateral incisions are indicated.

Noble, Ferguson, and others have adopted plans somewhat similar to that suggested by Dauriac, except that flaps are made of the sheath only and these are interlaced each with that of the opposite side or a flap is raised on each side consisting of the whole thickness of the anterior layer of the rectus sheath, the base of the flap being at the inner margin of the muscle. The flaps are then turned over to the middle line and there sutured in such manner that the surface formerly anterior now becomes posterior.

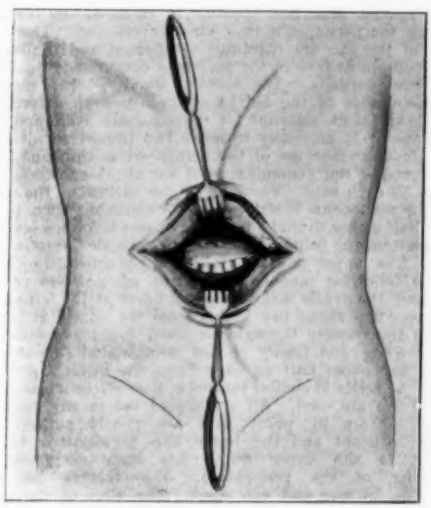
None of these methods, however, gave such satisfactory and permanent results as to secure its universal adoption. During the last few years, however, an operation has been described and frequently practised in America that seems to surpass all others and to achieve a veritable "radical cure." It is to Dr. W. J. Mayo of Rochester, Minnesota, that we are indebted for the suggestion that an overlapping of the rectus sheaths at the position of the umbilical ring will so strengthen a spot naturally weak that no recurrence need be feared. In a paper read before the American Academy of Railway Surgeons in October, 1898, he "called attention to the impracticability of covering in the defect left by excision of the larger umbilical hernia with muscle and advocated the overlapping of the aponeurotic structures which were already to hand, securing a wide area

FIG. 3.



The mattress suture.

FIG. 4.



The operation completed.

of adhesions in place of edge-to-edge union." Five cases were there recorded. In three of these the overlapping was from side to side and in two from above downwards.

Dr. Joseph Blake of New York has practised with success the method of overlapping the rectus muscle and its sheath in the following manner. A large elliptical area of skin and fat is excised between two vertical incisions meeting above and below. The length of the included area is about from 25 to 40 centimetres and the breadth is from 15 to 20 centimetres. The linea alba, after the hernia has been dealt with, is incised for the whole length of the wound. The peritoneum is separated if possible from the dorsal surface of one rectus. It is not necessarily opened except at the hernial orifice. One musculo-aponeurotic wall is then lapped over the other. In Dr. Blake's cases the amount of overlapping has varied from four to ten centimetres according to the laxity of the abdominal wall. The margin of the underlapping side is sutured to the deep surface of the overlapping side by mattress sutures of chromicised gut which are tied on the superficial surface of the latter. The margin of the overlapping side is tacked with interrupted sutures of the same material to the superficial surface of the underlapping side. The skin wound is then closed without drainage. The results have been excellent.

The operation practised by Dr. W. J. Mayo and Dr. C. H. Mayo of Rochester, Minnesota, differs from this in that the overlapping is from above downwards instead of from side to side. This method is undoubtedly the better. The following are the details of the operation. The toilet of the skin in and around the umbilicus is first attended to with scrupulous care; the need for it in the majority of the patients is unpleasantly conspicuous. The hernia is then marked off by two curved incisions, each about from six to eight inches in length, which meet at their extremities. These incisions are deepened by a few sweeps of the knife until the anterior sheath of the rectus at a little distance from the neck of the sac is exposed. By gauze-stripping the sheath is then exposed and cleaned for an area about five by four inches around the neck of the sac. Even in a large and pendulous hernia the neck of the sac is rarely thicker than one's middle finger. By this time the whole hernial mass is freed from its surroundings and is attached only by its stalk at the umbilicus. The neck of the sac is now carefully opened and the opening is enlarged by cutting through the peritoneum in a circular manner. The contents of the sac are carefully determined and if nothing but omentum be present the pedicle is divided and ligatured in several portions. The omental stump is then reduced and the closure of the hernial orifice is begun. In order to provide sufficient material for the adequate overlapping of the flaps it is necessary to make two transverse incisions from the outer margins of the hernial orifice through all the structures of the abdominal wall for about one and a half inches on each side. From the under surface of the upper flap the peritoneum is stripped up for about one inch to one and a half inches so that a pouch or pocket is formed between the peritoneum behind and the aponeurotic structures in front. The upper flap is then sutured above the lower in the following manner. A series of mattress sutures is passed, the needle being introduced first at the left end of the upper flap about two inches from the edge. It is then passed transversely through the lower flap about one inch from the edge and finally pierces from behind forwards the upper flap about half an inch from the original point of entry. A series of similar sutures is passed; as a rule either four or five are used. All are passed before any are tied. When all are in place they are gently pulled upon by an assistant and the lower flap is adjusted in the pocket in the upper which has been made by the stripping of the peritoneum. The sutures are then tied one by one and cut short. The edge of the upper flap is now stitched by a continuous catgut suture to the anterior sheath of the rectus and the wound is closed. For the mattress sutures kangaroo tendon is undoubtedly the best material. I use that prepared by van Horn and Sawtell of New York, having adopted it at the suggestion of Dr. W. B. Coley. Dr. Bull and Dr. Coley, at the Hospital for the Ruptured and Crippled in New York, use it invariably and their results in hernia operations are incomparably the best that I have seen.

This is the operation as practised and described by Dr. W. J. Mayo. I performed it in six cases up to the end of last year. All the patients recovered and none of these have up to the present shown any signs of recurrence. I have operated five times during the present year and all the cases have recovered, but it is too early to speak as to the permanence of the satisfactory result in these.

This operation has also been described, it would appear independently, by Piccoli and Sapejko. Dr. W. J. Mayo claims for the operation that "to-day the expectation of cure approaches that of inguinal hernia," a claim that seems to me to be justified. Dr. W. J. Mayo and Dr. C. H. Mayo have operated 35 times, overlapping from side to side ten times, and from above downwards 25 times. All the patients recovered. In only one case was there a relapse and in this there was merely a "boat-shaped stretching." The operation had been done by the lateral overlapping method.

The illustrations are slightly modified from the diagrams of Dr. W. J. Mayo.

Bibliography.—W. J. Mayo: Annals of Surgery, August, 1901, and the Journal of the American Medical Association, 1903, vol. ii., p. 225. Blake: Medical Record, vol. i., 1901, and Reference Handbook of the Medical Sciences, 1903, p. 680. Sapejko: Revue de Chirurgie, vol. i., 1900, p. 240. Piccoli: Centralblatt für Chirurgie, 1900, p. 36.

Leeds.

A CASE OF EXCISION OF THE CÆCUM; RECOVERY.

BY J. B. FOOTNER, F.R.C.S. ENG.,
SENIOR SURGEON, TUNBRIDGE WELLS GENERAL HOSPITAL.

THIS case is of interest owing to the difficulty of diagnosis and also in view of the good result. The patient, a woman, aged 30 years, had been married five years. She had two children, one four years old and the other six months old. She was a healthy-looking woman but was rather thin. Although not very robust she had enjoyed fairly good health. About a year previously, when five months pregnant, she was suddenly seized during the night with sharp pains in the lower part of the abdomen going through to the back. She was afraid that she was going to have a miscarriage but this did not occur. She was, however, very sick. After this first attack the pains recurred at rather frequent intervals, generally at night. She had an easy confinement but after this the pains became more frequent and severe and were felt higher up in the abdomen above the umbilicus. They were generally followed by vomiting and diarrhœa which gave relief. During all this time the bowels were mostly loose. The appetite had been good and the taking of food did not bring on the pains. She had had no night sweats but had become thinner. Three months previously she first noticed a "lump" in her abdomen and had frequently felt it since, generally somewhere near the umbilicus.

On examining the abdomen an oval-shaped tumour of about the size of a kidney but not of that shape, being more rounded and not so smooth, could be felt. Its position varied. It was most frequently to be felt to the left of the umbilicus and could be easily pushed over to the right side of the abdomen. It was not tender. On a few occasions when the abdomen was distended no tumour could be felt and on one occasion it was thought that two distinct tumours could be palpated.

An exploratory operation was decided on. The day before the date fixed for this—viz., June 10th, 1903—a tumour was felt in the right lumbar region which was unmistakably a moveable kidney. On this occasion the other tumour could not be felt, so it was decided to cut down in the right loin with the view of stitching this in position and at the same time it was thought that the abdomen might be explored through the incision without opening the peritoneum. This was done and the kidney being differentiated a second tumour was felt apparently in the transverse colon. It was decided to stitch the kidney in position, to close the wound, and to deal with the tumour by a median incision.

The above procedure had taken a very short time and as the patient had a great dread of operation it was thought best to avoid a second one if possible. So after suturing the kidney in position with three sutures the wound was closed and the abdomen was opened in the median line between the umbilicus and the pubes. It was then found

that the tumour consisted of the cæcum and ascending colon invaginated into the transverse colon and extending about half the length of the latter. The intussusception was easily reduced, the walls of the colon being very thin and flaccid. Then it was seen that there was a hard growth of considerable size surrounding the ileo-cæcal valve. The meso-cæcum was long and there were several enlarged glands in it but it appeared quite possible to remove these as well as the tumour. So the parts concerned having been withdrawn as much as possible and packed off from the abdominal cavity by marine sponges, the intestine was clamped above and below the tumour and divided. The meso-cæcum was tied off in sections with chromic gut and then divided and the tumour was removed. The enlarged glands were then removed. In doing this some very large vessels were divided but these were easily secured. The cut end of each portion of gut was then invaginated and closed by two sets of sutures, the inner one continuous and the outer by a modified Lembert inserted parallel to the cut end instead of at right angles to it and taking up about one-eighth of an inch breadth in each suture. I have frequently made use of this latter form of suture and have found it most satisfactory. It appears to be safer than a continuous suture and it can be quickly inserted and tied, and of course a smaller number is required than would be needed of the ordinary Lembert variety.

A lateral approximation of the two pieces of intestine was now made so that they lay side by side like two fingers, as it were, and lateral anastomosis was completed, fine silk being used. The opening made into the two portions of intestine was about one and a quarter inches in length. Then what was left of the mesocæcum was made use of and sutured to the anastomosis to anchor it in position and the anastomosis was reinforced by stitching some great omentum over it. The seat of operation was then sponged with weak boric acid lotion, the sponges were removed, and the wound was brought together with silk-worm gut sutures passed through the whole thickness of the abdominal wall. No drainage was employed. The wound was dressed with cyanide gauze.

The patient did not suffer much from shock after the operation but she complained a good deal of abdominal pain on coming to herself. To relieve this she was given aspirin in ten grain doses at 11 P.M., 3.30 A.M., and 8.30 A.M., with some relief. She was allowed sips of hot water at intervals and nutrient enemata were administered every four hours, consisting of milk and egg and brandy, and beef-tea alternately. Vomiting was rather troublesome: six times during the night following operation and eight times during the succeeding day. The nutrient enemata appeared to aggravate the vomiting so they were discontinued and nutrient enules were substituted and half a grain of calomel was given every hour for four doses. After this the vomiting stopped. On the second day milk and tea and milk and soda-water in small quantities were given alternately at frequent intervals. On the third day Benger's food in addition was allowed. The diet was gradually increased after this with no untoward results. The bowels acted for the first time after the operation on the fifth day naturally and again on the following day. An enema was generally required to move them until about four weeks after the operation when they began to act of themselves. The patient's temperature after the operation never went above 100° F. At 8 P.M. on the night following the operation it was 97°, but went up to 98° at midnight. The pulse ranged from 100 to 120 during the first day and 96 to 120 on the second day, after which it came down to 100 and under.

About six weeks after the operation the patient was feeling quite well. Her convalescence was slightly retarded at this time by the development of a sinus leading down to one of the kidney sutures. This latter was cut down on and removed, after which there was no further trouble.

I have heard of this patient recently that she is very well. It is nearly 13 months now since the operation.

It was thought better to make a lateral anastomosis in this case rather than to bring the end of the small intestine into a lateral opening in the large intestine because it was easier and quicker, and, moreover, there would be likely to be less tension on the sutures. It seems extraordinary that the intussusception of such a long portion of the large intestine, which evidently frequently occurred, should have produced so little disturbance in the way of obstruction and pain. It was the very variable position of the tumour owing to the above circumstance which added to the difficulty of diagnosis.

Tunbridge Wells.

POST-DIPHTHERITIC CHRONIC BULBAR PARALYSIS.

BY WILFRED HARRIS, M.D. CANTAB., M.R.C.P. LOND.,
PHYSICIAN TO OUT-PATIENTS, HOSPITAL FOR EPILEPSY AND PARALYSIS, MAIDA VALE; CASUALTY PHYSICIAN, ST. MARY'S HOSPITAL.

THE following case is the third of the kind that I have met with, of what, to judge from the published literature on the subject, appears to be of very rare occurrence. In a recent paper[1] I published two cases occurring in young women of chronic bulbar paralysis with involvement of the upper facial muscles as well as the lips but leaving the middle facial muscles intact. Both these cases commenced with palatal palsy, one three weeks and the other six weeks after an attack of ulcerated sore-throat which was recognised by the medical attendant at the time in one of them as diphtheria. One of these cases, the less severe of the two, persisted for six years with only slight improvement, but rapidly improved a year after marriage, after the birth of her first child, and has now remained quite well with normal electrical reactions for the last five years. The other case remains *in statu quo* after the lapse of four years, unable to close the eyes or to purse up the lips, with complete paralysis of the soft palate and paresis of the tongue and constrictors of the pharynx. In this case there is well-marked reaction of degeneration in the lips, eyelids, and palate. The only case at all resembling them that I have been able to find in the literature, occurring after diphtheria, is a case published by Stadthagen in 1884 of a boy, aged 11 years, with paralysis of the lips, tongue, and palate, with weakness of the lower face, the paralysis dating from four weeks after an attack of diphtheria at the age of four years. The following case, which I showed at a meeting of the Medical Society of London in April last, is somewhat similar to Stadthagen's case and differs from my two previous cases in being a less severe type of paralysis and in the upper facial muscles not being involved.

The patient, a man, aged 25 years, went to St. Mary's Hospital on March 18th, 1904, complaining of "relaxed throat," which, he said, followed scarlet fever seven years ago. In 1897 he had scarlet fever, followed by desquamation, and six weeks after the rash, when practically recovered, he developed another bad sore-throat, being very ill and unable to swallow without great pain for several days. Six weeks after that, or three months after the scarlet fever, he noticed difficulty in swallowing, with nasal regurgitation. He had never been able to swallow dry food since and had much difficulty in swallowing his saliva. Since the commencement of the weakness he had never been able to whistle, though previously he could do so. He had been slightly worse the last six months and had noticed slight diplopia twice, but, on the whole, there had been practically no variation in the symptoms since the commencement, with the exception that food never now returned through the nose. On examination there was marked paralysis of the whole of the orbicularis oris and he was unable to purse up the lips or to blow out the cheeks, the air escaping through the lips. The tongue was slightly atrophied and could not be protruded properly. The palate did not move at all on phonation of "Ah," though it rose well on reflex stimulation of the pharynx and on phonation of the vowel "O." There was marked difficulty in swallowing from pharyngeal paralysis. The vocal cords were normal. There were no weakness of any of the facial muscles except the lips and no weakness of the jaw muscles or of the limbs, even after repeated exertion. No ptosis or any ocular weakness was present. The electrical reactions showed distinct diminution in the reaction to faradism of the orbicularis oris, the contraction being somewhat sluggish, but beyond that no change could be detected in any of the muscles. No trace of the myasthenic reaction in any of the facial muscles, deltoids, biceps, or flexors in the forearm could be found. All the deep reflexes were very brisk, the jaw jerk excessively so, nearly amounting to clonus. Plantar reflex flexor.

Since the patient was first seen in March he has been treated twice weekly with galvanism to the pharynx and the lips and has been taking increasing doses of strychnine, as much as ten minims of the liquor strychniæ hydrochloratis three times daily being reached. Under this dose slight

[1] Brain, Winter Number, 1903.

spasm of the neck muscles was noticed once and as he had been warned to look out for this symptom he at once discontinued the medicine for three days. Since then he has for six weeks taken eight minims three times a day. Under this treatment he considerably improved and after two months could swallow all kinds of food, experiencing very little difficulty, and was able to purse up the lips much better and could blow out the cheeks without the air escaping through the lips. The tongue could also be protruded much further.

This patient's improvement under large doses of strychnine and galvanism after so long a period as seven years is of great interest when compared with the recovery of one of my two other cases six years after the onset of the palsy, under the nutritional stimulus of pregnancy. The nature of the lesion in these cases I discussed fully in my previous paper, coming to the conclusion that it must be a slight form of nuclear lesion, not necessarily progressive, and capable in certain circumstances of being recovered from. The diagnosis of myasthenia gravis can be excluded by the non-variability of the symptoms, the absence of ptosis or weakness of the jaw muscles or of the neck or limbs, by the absence of dyspnœal attacks and of the myasthenic reaction, and by the presence in one of my three cases of well-marked reaction of degeneration in the paralysed muscles.

A question of great interest in these cases is, Is it justifiable to call them post-diphtheritic? In the case detailed here the patient only knew that he had had scarlet fever. Since, however, after practically recovering from the scarlet fever he suffered from a severe secondary sore-throat it is not improbable that this second attack was really diphtheria, a not uncommon sequela. Then six weeks after the second attack of sore-throat he was seized with paralysis of swallowing and nasal regurgitation. Such a sequence of events seems to me to justify the diagnosis of diphtheria in the absence of definite evidence to the contrary. It has been urged that since the paralysis did not clear up it could not possibly have been due to diphtheria. It is true that practically all cases of diphtheritic paralysis either recover completely or die from the disease, yet there are a few cases on record of permanent paralysis remaining, and a few cases published of nuclear lesions found post mortem. All three of my cases commenced with palatal palsy and nasal regurgitation, from three to six weeks after an attack of ulcerated sore-throat, and in the absence of evidence that other faucial affections may give rise to this form of paralysis it seems necessary to me to consider them to have been diphtheritic. Septic sore-throats due to streptococcic invasion, with absence of the Klebs-Löffler bacilli of diphtheria, have been called diphtheroid and extensive paralysis in such a case has been recorded. Whether my three cases should be included under this description rather than diphtheritic is open to argument, yet septic sore-throat is common enough and this form of paralysis is undoubtedly rare, while palatal and pharyngeal palsy following diphtheria is common. It seems less open to criticism to believe that the neuritis in diphtheritic palsy, which has been shown to involve the anterior spinal roots, even in their intramedullary course, close up to the nerve cells from which they originate, may occasionally damage the nerve cells themselves and produce more permanent paralysis, not irrecoverable in every case but sometimes starting progressive nuclear degeneration in the affected cell-groups. Two of my three cases recovered, one completely after six years and the other partially after seven years, while the remaining case, the most severe of the three, after suffering four years, is still very slowly becoming worse, the palatal palsy having become complete and laryngeal palsy commencing, while the eyelids and lips remain as before, completely paralysed.

Queen Anne-street, W.

SOME NOVEL PATENTS.—An American inventor has patented a paper milk-bottle the claim in connexion with which seems to relate chiefly to the methods of closing the open end; nothing is said as to any special treatment of the paper. Another inventor has patented a process of making insecticides, apparently by boiling sulphur and lime together and afterwards adding salt solution, mercury, and sulphate of iron, with further boiling and collection of the vapour given off. Drawings and descriptions of these contrivances are contained in the *Official Gazette* of the United States Patent Office issued on July 5th.

CASE OF WILFUL INTRODUCTION OF FOREIGN BODIES INTO THE ŒSOPHAGUS; DEATH.

BY J. H. TARGETT, M.S. LOND., F.R.C.S. ENG.,
OBSTETRIC SURGEON, GUY'S HOSPITAL, ETC.;
AND
STANLEY B. ATKINSON, M.A. CANTAB., M.B., B.SC. LOND.,
BARRISTER-AT-LAW, OF THE INNER TEMPLE.

A FEMALE child, aged ten months, was admitted into Guy's Hospital on Nov. 14th, 1893, for slight difficulty in breathing. According to the friends this began at 1.45 P.M. on the same day when the child was eating some bread-and-butter and suddenly "gave a choke." She then brought up some blood-stained mucus. She was taken to Guy's Hospital the same afternoon. On admission the upper end of the gullet seemed to be pushed forwards and there was much mucus in the throat. The neck was swollen in front and it was thought that an abscess was forming at the back of the gullet. The child gradually got worse and died on Nov. 17th.

Necropsy.—At the post-mortem examination the body was found to be well nourished. The brain was normal. The lower lobes of both lungs were extensively affected with broncho-pneumonia and the smaller tubes contained thick pus. The upper lobes were emphysematous but otherwise healthy. The heart was normal. Immediately below the level of the cricoid cartilage there was a cork impacted in the gullet. It measured one and a quarter inches in length and three quarters of an inch across, and had formed for itself a pouch out of the posterior wall where it was firmly grasped. The hinder wall of the windpipe was indented by it and the edges of the cork had caused ulceration there. A probe could be passed easily down the gullet by the side of the cork. Hence, liquids could be swallowed but the movements of the windpipe must have been hampered in swallowing and this would predispose to inhalation of food, &c. The stomach contained two other smaller corks and a little thick mucus.

The following facts were elicited at the coroner's original and adjourned inquest at Guy's Hospital,[1] and at the Central Criminal Court (Mr. Justice Darling) on Nov. 23rd, 1903.[2]

On Nov. 14th, 1893, Mrs. P., a laundress, had three children living—viz., Ernest (aged seven years), Walter (aged two years), and Ellen (aged 10 months, who had been insured two months previously). Four of her children had died; there had been no inquests or exhumations. There were no corks at her home. Mrs. W., for a few pence, minded these children while Mrs. P. attended to her daily work, leaving brown bread and butter for them. Mr. W., a precarious worker, who "sometimes came home sober," lived with his wife and was usually kind. On the morning in question Mr. and Mrs. W. and the two younger children had not stirred from the room. Mr. W. said that the child was rather troublesome. Mrs. W. said that she had not lost sight of Ellen the whole morning. Soon after noon Ernest summoned his mother to Ellen who was choking, having apparently inhaled some bread-and-butter; she was black in the face and blood trickled from her mouth. A local medical practitioner suggested obstruction, noted a prominence of the larynx, gained no information on palpation of the fauces, and sent the child to Guy's Hospital where she died on the 17th.

At the post-mortem examination three corks were found, two (three-quarters of an inch in length) in the stomach and also an old unmarked cork fixed behind the cricoid cartilage. The local chest condition displayed no external marks; there was no sign of violence (by forcing) in the fauces, but there was a small laceration where the cork rested. The fauces were swollen. There was no abscess.

The coroner suggested that the corks might have been taken in the hospital. The jury gave the following verdict: "The child died from inflammation of the lungs; how the corks got into the deceased they could not say,

[1] The Times, Nov. 22nd and 29th, 1893.
[2] R. v. Woodhart, 139 C.C.C. 89.

though they were of opinion that they were there before she was taken to the first medical man who saw her.

On Nov. 23rd, 1903, G. H. W., aged 35 years, was charged on his own confession with the wilful murder of Ellen P., aged ten months, in 1893. Having written four times to Scotland Yard (when more or less intoxicated) he was arrested and after due warning confessed: "All I have to say is that I choked the child with corks; I had been drinking for two or three days previous; I do not know why I did it." "Mrs. W.," who now appeared as an unmarried woman, stated that she was away from her home for an hour on the morning of the incident, leaving Mr. W. and the two younger children in the room, Ellen being quite well then. On her return Mr. W. refused to say anything as to the cause of Ellen's discomfort. He had not had alcoholic drink that morning. Later he told her to inform the coroner that there were no bottles or corks in the house, which was untrue. She did not know that he had been sending letters to Scotland Yard but she recognised his handwriting. A verdict of manslaughter was given and the man was sentenced to five years' penal servitude.

Remarks.—The charge against the prisoner rested on the statements contained in three letters and a postcard (produced and identified as his) and on his voluntary confession of the deed when arrested: "All I have to say is that I choked the child with corks; I had been drinking for two or three days previous; I do not know why I did it.—G. H. Woodhart." Evidence showed that the younger children were alone present when he claimed to have introduced the corks and that during the morning he had not had any "drink." "He sometimes came home sober" and his mistress stated that he was under the influence of alcohol at the dates of his communications with the police. His uncorroborated confessions, made while he was possibly under the temporary or permanent influence of intoxicants, led the jury to decline to bring in a verdict "Guilty of murder," there being no "malice aforethought" proven from his conduct which exhibited no evident desire to kill or to inflict a grevious bodily injury. Indeed, the deceased was a small source of gain to him and caused him but little annoyance. For his foolish and reckless action he was found "Guilty of manslaughter" and sentenced accordingly.

A confession by a drunken man is admissible in court, though it is subject to judicial comment; it appears that statements made by one who was for that purpose intoxicated would be received. The evidence of "Mrs. Woodhart" would not have been called for had she been what in a convenient police phrase is known as "a married wife"; many consorts have been screened by this rule, notably where an *alibi* is set up in the defence. This case illustrates the principle *Nullum tempus occurrit regi*, that is, a crime is not rendered unpunishable by lapse of time before the possibility of proceedings arises. It is notable that for three days the two corks had remained within the stomach; perhaps this was due to a protective spasmodic pyloric stenosis. Had they proceeded through the orifice symptoms of intestinal obstruction would have doubtless supervened, as in the cases where pieces of cork are designedly placed for ingestion by the larger vermin. The necessity of demanding full credit for medical testimony in court and also of making a post-mortem investigation of all casual cases of abnormal deaths is enforced by this record, for had not the child been immediately sent to the hospital the secondary cause of death (septic bronchopneumonia) might in other hands have figured as the primary disease in the certificate of the cause of death and the crime most probably would have remained undiscovered.

THE USE OF PHENYLHYDRAZIN IN THE CLINICAL EXAMINATION OF URINE

BY W. H. WILLCOX, M.D., B.Sc. LOND., F.I.C., D.P.H.,

LECTURER ON PATHOLOGICAL CHEMISTRY AND MEDICAL REGISTRAR AT ST. MARY'S HOSPITAL.

THE use of phenylhydrazin in the clinical examination of urine has recently been attracting considerable attention. I have therefore been conducting a number of experiments in order to determine the value of this reagent as a clinical test for urine. As is well known phenylhydrazin is used largely in organic chemistry as a delicate test for aldehydes and ketones, owing to its property of combining with these classes of bodies to form hydrazones which crystallise out in a characteristic manner. Since many of the sugars contain the aldehyde, or ketone groups, phenylhydrazin reacts with them to form first, hydrazones and afterwards osazones, these latter bodies forming very characteristic yellow crystals. Hence the reagent serves as one of the most delicate tests for many of the sugars.

In my investigations I first selected seven healthy persons and carefully examined the fresh urine, testing for any abnormal constituents which were found absent. These specimens of urine were used in the investigations of the action of the reagent on normal urine.

Method of applying the test.—The following substances were taken: phenylhydrazin hydrochloride, three-quarters of a gramme; sodium acetate, two grammes; and liquid, 20 cubic centimetres. These were either boiled for five minutes or, as I found more convenient, heated in a water bath for from 15 to 30 minutes. The mixture was then set aside to cool for 12 hours and the deposit was examined microscopically (under one-sixth inch objective) for crystals.

I.—NORMAL URINE.

A. 20 cubic centimetres of the filtered urine were taken and treated as described above with phenylhydrazin hydrochloride and sodium acetate. In no case were any characteristic crystals obtained. A brown deposit usually occurs but this is amorphous in nature. In two of the seven specimens examined a few yellow ill-defined crystals were obtained but these were in the form of small spherical masses with small spicules projecting from them. I have found on examining different specimens of the urine of the same healthy person that in about 1 in 3 times a few of these indefinite crystalline masses will be obtained.

B. If, however, the *normal* urine is boiled with one-tenth the volume of strong hydrochloric acid from five to ten minutes then certain substances present are no doubt hydrolysed and it has been my experience after neutralising the excess of acid and applying the test that *invariably very characteristic yellow crystals are obtained which are undoubtedly osazones.*

Method of procedure.—Ten cubic centimetres of urine are taken and one cubic centimetre of strong hydrochloric acid is added. This is boiled for from five to ten minutes on the sand bath; five cubic centimetres of urine and five cubic centimetres of water are added; the mixture is allowed to cool. The excess of acid is neutralised either with four grammes of lead carbonate or solution of caustic soda; the mixture is filtered; the filtrate is made up to 20 cubic centimetres if necessary. The phenylhydrazin hydrochloride and sodium acetate are added and the mixture is either boiled for five minutes or heated in the water bath as described above. It is set aside for 12 hours and the deposit is examined for crystals.

In every one of the seven normal specimens of urine examined as described I found a copious deposit of very characteristic yellow crystals; these were well-formed stars or sheaves and undoubtedly osazones. I may add that I have examined a large number of other urines in this way and *in every case* these characteristic crystals have been obtained.

C. *Further experiments with normal urine.*—*a.* One of the above specimens of normal urine was taken which yielded a copious deposit of crystals after hydrolysis with hydrochloric acid but none unless hydrolysed. The urine was evaporated to dryness on the water bath and the residue was carefully extracted with absolute alcohol. The filtered extract was evaporated to dryness and the residue was dissolved in water. An amount of this solution corresponding to 15 cubic centimetres of the original urine was taken and then tested as described above: (1) by treating directly with phenylhydrazin hydrochloride and sodium acetate; and (2) by first hydrolysing with hydrochloric acid, neutralising the excess of acid with lead carbonate, filtering, and then treating the filtrate with phenylhydrazin hydrochloride and sodium acetate. *In neither case was a single crystal obtained.* One may therefore conclude that the substance yielding the crystals in normal urine (after hydrolysis) is insoluble in absolute alcohol and is not urea, creatinine, or urine pigments.

b. It next occurred that uric acid or hippuric acid might possibly be decomposed by hydrolysis and yield crystals with phenylhydrazin. Solutions of sodium urate, 7·5 milligrammes in ten cubic centimetres, and sodium hippurate,

7·5 milligrammes in ten cubic centimetres (corresponding to the amounts of uric acid and hippuric acid in 20 cubic centimetres of urine) were taken. Ten cubic centimetres of these solutions were taken and boiled with one cubic centimetre of hydrochloric acid respectively for ten minutes, ten cubic centimetres of water were added, and the excess of acid was neutralised by carbonate of lead or by sodium hydrate. After filtration the liquid was treated in each case with phenylhydrazin hydrochloride, and sodium acetate. In no case were any yellow osazone crystals obtained. (In the experiment where the uric acid was tested and the hydrochloric acid was neutralised by lead carbonate some colourless needle-shaped crystals of lead urate were formed quite unlike the yellow osazone crystals.)

c. As it has been suggested that the production of the characteristic yellow crystals may be due to glycerine, I next experimented with pure solutions of this substance: 0·2 per cent. solution and 0·5 per cent. solution were used. The test was applied in each case: (1) by treating 20 cubic centimetres of solution with phenylhydrazin hydrochloride and sodium acetate; and (2) by previous hydrolysis with hydrochloric acid and neutralising the excess of acid with lead carbonate or sodium hydrate. *In no case was a single crystal obtained.*

Conclusions.—From the above experiments on normal urine it is evident that a normal urine *invariably* contains some substance—a polysaccharose or glyco-proteid perhaps—which itself gives no characteristic crystals with phenylhydrazin, but which after hydrolysis always yields a substance (probably a sugar), which latter substance gives very characteristic crystals with phenylhydrazin.

II.—NOTES ON A FEW OF THE PATHOLOGICAL CASES EXAMINED.

CASE 1. *Malignant disease of the pancreas* (diagnosis confirmed by operation).—Crystals were obtained from the urine after hydrolysis with hydrochloric acid as described above but these were in no way different in character or in quantity from those obtained from a normal urine.

CASE 2. *Carcinoma of the stomach.*—The growth was removed by operation on April 13th, 1904. The pancreas was injured by the operation and a pancreatic fistula resulted. The urine was examined on the 23rd. Characteristic crystals were obtained after hydrolysis but these were not present in greater amount nor were they different in character from those obtained from the normal urines examined. In this case death occurred from acute pancreatitis (confirmed post mortem) on April 30th.

CASE 3.—This was thought to be a case of pancreatic disease. Crystals were obtained after hydrolysis similar in character and quantity to those obtained from normal urines. Operation showed a gall-stone in the common bile-duct and an inflammatory condition of the bile-passages but no pancreatic disease.

CASE 4. *Biliary colic;* and CASE 5. *Malignant disease of the pancreas.*—These two cases have not yet been operated upon but there is little doubt as to the diagnosis. In each case crystals were obtained after hydrolysis similar to those obtained from normal urines but not in greater amount.

Conclusion.—From the above work it is evident that the production of characteristic yellow crystals in a urine "after hydrolysis by boiling with hydrochloric acid" can in no sense be used as a specific test for any special pathological condition since such crystals are constantly obtained from normal urines.

St. Mary's Hospital.

HOSPITAL FOR EPILEPSY AND PARALYSIS, MAIDA VALE.—The Duchess of Saxe-Coburg and Gotha, a lady-patroness of the Hospital for Epilepsy and Paralysis, Maida Vale, accompanied by Princess Henry of Battenberg, and attended by the Dowager Lady Augusta Monson, paid on July 15th a visit of considerable duration to the new hospital which they minutely inspected. In the absence, through indisposition, of the President, the Earl of Hardwicke, the Royal party was received by Canon Duckworth, a Vice-President, Dr. George Ogilvie, the senior physician, Mr. N. Behrens, Captain Ellis, and Mr. S. A. Knapp-Fisher, members of the committee, Mrs. S. A. Knapp-Fisher, the matron, Miss Keith, and Mr. Howgrave Graham, the secretary. At the request of Canon Duckworth Princess Henry of Battenberg graciously gave her consent to be elected a lady-patroness of the hospital.

ONE FORM OF SUPPURATIVE APPENDICITIS.[1]

BY ARTHUR C. ROPER, F.R.C.S. EDIN.,
SURGEON TO THE ROYAL DEVON AND EXETER HOSPITAL.

CASE 1.—In March, 1903, I performed appendicectomy on a young man, aged 21 years. His history was that he had had two severe attacks of peritonitis focussed in the right iliac fossa during the previous six weeks. The most striking thing in the operation was the large mass of omentum, only partially recovered from an inflammation, adherent to the cæcum and parietal peritoneum and drawn, as it seemed, to a caseating mass, which I took to be a gland, half an inch up the ascending colon from the origin of the appendix. It is not a very uncommon thing to find that gland enlarged in this operation but I have never before seen it caseating. There was little or nothing wrong with the appendix so far as I could see except that its exterior shared in the general inflammatory condition prevalent in the fossa. My note at the end of the account of the operation runs thus: "I think it doubtful whether the appendix was at fault here. It seems more likely that the cheesy mass to which the omentum was most adherent was the cause of the peritonitis."

CASE 2.—Some weeks after I was summoned to operate on a delicate child, aged eight years, who had a history of inflammation in the right iliac fossa extending over several weeks. There were all the signs of abscess and the operation consisted in merely opening, washing out, and draining it. In this case the pus was quite inodorous. It was devoid of the fæcal smell which is so characteristic of most of these cases and which is due, of course, to the presence of the bacillus coli. The pus, moreover, was thick and curdy, just like that which one finds in tuberculous cervical glands and quite different from what usually obtains in appendix abscess. In this case I saw nothing of the appendix, so cannot tell whether it had sloughed or whether it was behind the cæcum and uninjured. This case reminded me of the previous one and I came to the conclusion that it was only a later stage of the condition which I found in Case 1. I mean that had I not removed or scraped away the caseating gland in Case 1 it would have run on to an inodorous abscess unconnected with the appendix but, in the fashion of to-day, to be dubbed an appendix abscess.

CASE 3.—On Jan. 7th of this year I was called to see a pale but fairly strong boy, aged nine years. He had a typical mild appendicitis with a history of a similar though slighter attack some few weeks before which was regarded as stomach-ache and passed off with a purge and three days in bed. His temperature, which was never above 101° F., subsided in a few days. A lump formed in the fossa and disappeared and in a fortnight he was out of bed. After a week's interval of apparent health he was playing with his brother and the latter sat upon his abdomen, thus starting another attack. This, though rather more severe, was similarly typical and uneventful and in ten days the temperature was normal and the swelling had nearly dissipated. I advised appendicectomy and my advice was endorsed by Mr. J. F. Parsons of Frome who saw the case in consultation with me. I gave the patient ten days rest in bed and careful dieting before operating and on the morning of the operation he told me that he had a return of his old pain. I had carefully examined his abdomen 48 hours before and could find no trace of the lump or of any abnormality, yet on exposing it for operation the lump was at once visible and palpable in the fossa. On opening the peritoneum the first thing I encountered was a large mass of engorged and inflamed omentum adherent to the parietes. I separated this, ligatured it, and cut it away. Immediately under it was the appendix, inflamed, curled up over, and closely adherent to, the inflamed cæcum. Adhesions were everywhere dense and succulent, and it took considerable time and care to separate the appendix from the cæcum, which I was afraid of lacerating. Surrounding the root of the appendix was a small abscess of thick, curd-like pus, and quite inodorous.

[1] A paper read at a meeting of the Barnstaple Branch of the British Medical Association on March 30th, 1904.

Its walls were very thick and resistant and the cæcum was so tied down that I could not revolve or even move it so as to bring the stump up into the wound to form flaps. I was obliged to ligature the appendix deep down in the fossa, close to the cæcum, and to cut it away. I curetted the abscess cavity, left a drain, and in three weeks the wound was healed. I could see nothing wrong with this appendix externally save that it shared in the peritonitis of that part. There was hæmorrhage into it and that it communicated with the cæcum was evident from the fact that there was fæcal matter in it, and had it perforated the bacillus coli would certainly have contaminated the abscess. I sent this appendix to St. Bartholomew's Hospital Pathological Laboratory and the report was to the effect that it was in a condition of acute hæmorrhagic inflammation. I had a dim foreshadowing of the diagnosis of this case in my mind and remarked to Mr. Parsons at our consultation that I should not be at all surprised to find that a caseating gland was the cause of the trouble. I have very little doubt that the abscess was a suppurating lymphatic gland.

Unfortunately all three cases occurred in private practice and I had nothing with me for bringing away pus or curettings for examination. I believe, however, that a lymphatic gland near the origin of the appendix is the seat of abscess in these cases which we should all of us unhesitatingly diagnose as appendicitis. I have narrated these cases in chronological order as they arose in practice, but if you take, first, the case where there was the caseating gland; secondly, the little boy whose case I narrated at some length and who had a small and quite recent abscess with no acute symptoms at all; and, thirdly, the child with a large abscess, you have a good clinical picture of the different stages through which one would expect such a glandular inflammation to pass. The weak link is that I did not find the appendix in the case which represents stage No. 3. This may be explained in two opposite ways: first, that the appendix was not involved in the abscess at all but was, and still is, lying on the inner side of the cæcum out of reach of harm from contiguous inflammation; and secondly, that it sloughed from thrombotic interference with its blood-supply and escaped in the discharge from the abscess. Of bacteriological evidence I have none to offer you for the reasons which I have already given.

An interesting point in the pathology of this gland suppuration is as to whether the gland is primarily attacked, which is unlikely, or whether it is secondary to some infection, tuberculous or otherwise, of the appendix or cæcum.

On March 19th last two cases of appendicitis were admitted under my care at the Royal Devon and Exeter Hospital. I operated on both in the evening. The first case was that of a strong young man with a fulminating appendicitis, high temperature, rising pulse, and marked septicæmia. I opened a small abscess of thin, fæcal-smelling pus. Only 66 hours had elapsed since the patient was attacked. The second case was that of a thin, delicate-looking child, much emaciated, with a tuberculous family history and a personal history that she had been ailing for weeks with loss of appetite and pains in her abdomen. On the sixth day before admission she took to her bed. On the fourth a medical man was sent for who thought that an abscess was forming and sent her to hospital. I remarked to those present in the theatre that I expected to find an abscess of thick pus with lumps in it and inodorous. I spoke too broadly here. I should have said "free from fæcal smell," for the contents gave out what my colleague Mr. C. E. Bell described as "a good, useful smell anyhow." It was rather the smell of gangrene than of the bacillus coli. I could find only staphylococci in a culture which I grew from the pus. I have sent the culture and some of the pus to my friend Dr. Horder at St. Bartholomew's Hospital and he says that there were only staphylococci and streptococci found there.

These cases are not of great importance as the treatment will, of course, be carried out on the now well-established lines but they are of great interest and I am not aware of the suggestion having been previously made that in some of these milder cases of recurrent appendicitis suppuration may be commencing in a gland secondary to infection from the appendix. I lack complete bacteriological evidence as to the precise cause of the suppuration but the pus and abscess wall in my cases were strongly suggestive of tubercle.

Exeter.

ABDOMINAL PAIN OF INTESTINAL ORIGIN.[1]

By FREDERICK HOLME WIGGIN, M.D.,

FORMERLY VICE-PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION AND PRESIDENT OF THE NEW YORK STATE MEDICAL ASSOCIATION; VISITING SURGEON TO THE CITY HOSPITAL, ETC., NEW YORK.

THE importance of a correct interpretation of the meaning of abdominal pain, when considered in connexion with abnormal intestinal conditions, can hardly be over-estimated, as in all serious disorders of this portion of the body the advent of pain in varying character and degree is often the first warning given that the patient is suffering from a disease which if not promptly recognised and the condition immediately relieved by the performance of a more or less serious surgical operation may soon terminate his life. Failure to heed this warning or to reach a correct conclusion as to its cause has been in the past, and too often still is, responsible for the untimely ending of many valuable lives; while delay caused by an effort to make an exact differential diagnosis in doubtful cases is still responsible for the high rate of mortality attending surgical operations undertaken for the relief of many acute intestinal disorders. As Maurice Richardson, in a recent valuable paper has forcibly said in regard to this subject: "Can we by study, observation, and reasoning, learn to interpret the cry for help which through pain the fatal lesion utters. Can we understand the cry which says, help the perforated stomach, the gangrenous appendix, the bleeding artery, and the ruptured gall-bladder and the obstructed intestines."

Abdominal pain, as has been stated, is common to all serious disorders of the intestines, its peculiarities in only one or two instances, however, being sufficient when considered alone to suggest at once to the physician's mind the general character of the disease; consequently in arriving at a reasonably correct diagnosis in the cases we are discussing it is necessary to take into consideration, in addition to the pain, other important factors such as the previous history of the patient and other accompanying bodily symptoms. In a general way it may be stated that abdominal pain of a sharp and persistent character indicates involvement of the peritonenm, whereas a dull and aching pain points to involvement of the connective tissue only; while a cardialgia considered in connexion with abnormal intestinal conditions would limit the disease to the duodenum; tenesmus indicates limitation of the disease to the lower third of the intestinal tract, whereas colicky pains occurring several times a year in the same person who is not habitually constipated would, according to Hemmeter, be suggestive of entero-stenosis.

Duodenitis.—A constant abdominal pain with increased sensitiveness to pressure in the right hypochondriac region occurring in a patient suffering from an acute gastritis and in whose stools there is mucus, with or without blood, is indicative of duodenitis.

Enteritis.—Colicky abdominal pains extending in various directions, accompanied by an unpleasant sensation of pressure, abdominal distension, diarrhœa, loss of appetite, and thirst, indicate that the patient is suffering from acute inflammation of the bowels.

Colitis.—Involvement of the colon makes itself manifest by an increase in the diarrhœa, the limitations of the pains and the sensitiveness on pressure largely to the large bowel.

Sigmoiditis; proctitis.—Colicky pains in the left iliac fossa followed by tenesmus and mucous bloodstained stools are indicative of inflammation of the sigmoid flexure and the rectum.

Entero-colitis in children.—Intense griping abdominal pain occurring during the summer months in a healthy child under four years of age accompanied by constant vomiting and frequent watery discharges from the bowel, rapid pulse, high bodily temperature, and collapse, is symptomatic of entero-colitis.

Chronic enteritis.—Recurring abdominal pain following errors in diet, unusual physical exertion, mental excitement,

[1] A paper read at the annual meeting of the Medical Society of the State of New York held at Albany, New York, U.S.A., on Jan. 26th, 27th, and 28th, 1904.

accompanied by abdominal distension, gurgling sounds when pressure is made on the abdomen, and diarrhœa with or without tenesmus, is indicative of chronic intestinal inflammation.

Membranous colitis.—Abdominal pain localised in the transverse or descending colon continuing for several days and occurring in a neurasthenic woman giving a history of constipation followed by the voiding from the bowel of strings of mucus or casts of large gut is indicative of membranous colitis.

Fæcal distension of the cæcum.—Abdominal pain and tenderness of mild character located in the right iliac fossa in an aged person of sedentary habits or in a child who also complains of digestive disturbances and has a doughy sausage-shaped tumour in the cæcal region are indicative of fæcal distension of the cæcum.

Impaction of the fæces.—Abdominal pain, accompanied by mild symptoms of intestinal obstruction and a feeling of weight and distension in the right iliac region and tenesmus occurring in elderly people of sedentary habits, is indicative of fæcal impaction, the diagnosis being definitely settled by a local examination.

Lead poisoning.—Severe abdominal pain, distension and tenderness associated with vomiting and constipation, followed by diarrhœa, occurring in one who is also suffering from acute anæmia and who has recently been exposed to the fumes of lead, are indicative of acute lead poisoning. In the chronic form of the disorder, intestinal colic and a blue line on the gums occurring in a lead worker are the most important factors in making a diagnosis.

Primary tuberculosis of the intestines.—Colicky abdominal pains occurring in a child having large mesenteric glands, moderate fever, irregular diarrhœa, and who is losing markedly in weight, are suggestive of primary tuberculous infection of the intestines.

Secondary tuberculous infection of the intestines.—Recurring attacks of severe abdominal pain associated with alternating attacks of constipation and diarrhœa occurring in a patient having tuberculous involvement of the lungs and who also has a thickening of the tissues or an elongated tumour in the right iliac fossa, are indicative of secondary tuberculous infection of the intestines, in both cases the diagnosis being settled by the finding of tubercle bacilli in the fæcal discharges.

Tapeworms.—Abdominal pains occurring in an anæmic person who is also suffering from nausea and diarrhœa, but whose appetite is good, are suggestive of tapeworm, the diagnosis finally depending, however, on finding segments of the worm in the stools.

Intestinal ulceration.—A continuous abdominal pain, associated with tenderness on pressure, always localised in the same spot, is symptomatic of intestinal ulceration. When the ulcer is located in the first portion of the duodenum the pain is situated in the right hypochondriac region, radiates down toward the pelvis, and comes on about two hours after eating, and usually occurs in an adult male from 30 to 60 years of age, who also passes blood with more or less frequency, or in a woman who has within a week or two suffered from an extensive burn. If a patient suffering from typhoid fever in the third or fourth week of the disease complains of increased abdominal pain in the hypogastric region, associated with irritability of the bladder with pain extending to the penis, early perforation of an intestinal ulcer may be looked for, as these symptoms indicate extension of the inflammatory process.

Appendicitis.—A sudden abdominal pain at first referred to the epigastric and umbilical regions and later becoming localised in the right inguinal region, accompanied by abdominal distension, rigidity, and tenderness on pressure, is symptomatic of appendicitis, especially so when occurring in a young adult male following unusual physical exertion, or in a female at or near the menstrual period, who are also suffering from constipation, gastric disturbance, a moderate amount of fever, irritable bladder, and a rapid pulse. It must, however, constantly be borne in mind that as the location of the appendix varies the pain accompanying it does also and may be located in the right lumbar, lower epigastric, or umbilical region; in this last case it may sometimes even be to the left of the median line, instead of in the right iliac fossa. The tenderness on pressure, however, ordinarily remains at this point with a dart of pain to the umbilicus, as has recently been pointed out by Alexander Lambert, as the attachment of the appendix to the cæcum is fixed. Constantly recurring attacks of appendicular colic are probably due, as has been stated by Talamon, to violent and irregular contractions of the longitudinal muscular fibres in the effort to expel mucus.

Obliterative appendicitis.—A constant abdominal pain over McBurney's point with tenderness on pressure is indicative of chronic obliterative inflammation of the appendix.

Chronic relapsing appendicitis.—Recurring attacks of pain in the right inguinal region at varying intervals occurring in an anæmic and emaciated individual who complains also of digestive disorders and constipation are suggestive of chronic relapsing appendicitis. Typhoid fever in its earlier stages is often mistaken for appendicitis but this error may frequently be avoided by remembering that while in appendicitis the fever is usually moderate in degree and the pulse-rate is high the reverse is the case in typhoid fever where the body temperature is high and the pulse-rate is low. A blood count will also be of service, typhoid fever in its beginning having a low leucocytosis, while appendicitis has a high one.

A diagnosis of appendicitis should never be made until a careful examination of the patient's chest has been made, as has been pointed out by Richardson, for the writer has knowledge of a case occurring in the practice of another surgeon where the patient gave a history of recurring attacks of appendicitis, complained of pain in the right iliac region, had gastric distension, fever, rapid respiration, and high pulse-rate, but, it being hot weather, the chest was not examined. The condition was diagnosed as appendicitis and operation was decided upon. The operation proved that the patient had previously had attacks of the disease but was not at that time suffering from the trouble and further investigation revealed the fact that the patient was really suffering from a right-sided pneumonia. Unfortunately the patient did not survive. It must not be forgotten that in some virulent cases of appendicitis we have a normal bodily temperature with a high pulse and rapid respiration-rate.

External strangulated hernia.—Severe abdominal pain referred to the umbilical region, associated with a sudden and complete constipation, persistent nausea, and faintness and collapse, is suggestive of external hernia and search should be at once made in the inguinal canal, umbilical and femoral regions, obturator and ischiatic foramina, perineum, rectum, vagina, and the entire abdominal wall for ventral or lumbar hernia, not forgetting to examine the linea alba, for a localised tumour or tenderness on pressure. The symptoms of internal strangulated hernia are, of course, those of distinct intestinal obstruction.

Intestinal perforation and obstruction.—Sharp recurring abdominal pain, increasing in severity, at first localised and then becoming general, followed by muscular rigidity and marked localised tenderness, vomiting, rapid pulse and respiration, prostration, and collapse, is indicative of intestinal perforation when associated with a history of any variety of intestinal ulceration, stab and gun-shot wounds, or severe contusion of the abdomen. Similar symptoms associated with constant and violent peristalsis, absolute constipation, more marked abdominal distension, occurring in a patient giving a previous history of external hernia, operation, peritonitis, tuberculous intestinal disease or tumour, are indicative of acute intestinal obstruction or the obstruction may be due to an internal hernia, Meckel's diverticulum, a long adherent appendix or Fallopian tube, or the paralysis following plugging of mesenteric vessels by a thrombus or embolism. The last condition may be suspected when a patient having a diseased heart or arteries, or pulmonary disease, complains at first of severe general abdominal pain and tenderness, which is out of all proportion to the accompanying constitutional symptoms, and whose constipation does not yield readily to treatment or who passes a quantity of blood by the bowel. Unless the condition is recognised and the patient relieved promptly by the excision of the diseased gut the general symptoms of obstruction and perforation already alluded to soon follow.

In a case of this kind recently seen and reported by me the cause of the trouble proved to be due to the extension of the inflammation from a diseased appendix to the contiguous mesenteric vessels. The patient's symptoms were for the first two days of the illness those of mild recurring appendicitis and were then followed by severe abdominal pain to the left of the median line, the pulse and temperature remaining practically normal for forty-eight hours longer, when symptoms of intestinal perforation manifested themselves, and when the patient's abdomen was opened a few hours later it was found to contain about a gallon of

liquid intestinal contents and blood, and a coil of the ileum about 12 inches long in a gangrenous condition, black in colour, with a perforation one-half inch in diameter, presented itself. The appendix was found acutely inflamed, especially its tip, which was bright red in colour and adherent to the mesentery of the necrosed bowel. The report of the pathologist, Dr. Horst Ortel, was as follows: "The portion of the small intestines shows deep hæmorrhagic infiltration of all structures with œdematous swelling, and simple necrosis of all tissues, it evidently progressing from the deeper portions to the mucous membrane; the vessel being very much dilated and thrombosed, in one portion one-half inch in diameter. Necrosis had so far advanced as to produce rupture of the gut; immediately around the opening there was found necrotic tissue without inflammatory reaction." In discussing the case just alluded to and in referring to the character of the abdominal pain found in such cases, Dr. Alexander Lambert said that a patient of his, an intelligent physician, suffering from this condition, told him that he felt as if every little capillary throbbed with pain. It may be well to bear in mind that the patient generally rallies from the shock following perforation and if the operation is performed within 12 hours the chances of recovery are reasonably good. A hypodermic injection of ergot and strychnine with an intravenous injection of saline solution may be used to rally the patient before the operation is undertaken.

Hæmorrhoids, fissure, or anal ulcers.—Severe abdominal pain during and after defecation, followed by discharges of a small amount of blood, occurring in a woman, the pain being referred to the vagina and the uterus, is symptomatic of hæmorrhoids, fissure, or anal ulcer. The diagnosis is completed by local investigation.

Intussusception.—A violent recurring abdominal pain occurring suddenly in a healthy infant, accompanied by tenderness and passages of blood-stained mucus from the bowel and having an elongated cylindrical abdominal tumour, is indicative of intussusception.

Chronic obstruction of the colon.—Subacute intermittent symptoms of intestinal obstruction, accompanied by tenderness on pressure and the voiding of mucus tinged with blood by the bowel, are indicative of chronic obstruction of the colon.

Volvulus of the sigmoid flexure.—Subacute symptoms of obstruction occurring in a male over 40 years of age, giving a history of constipation, the prominent feature of the disease being an extreme and rapid distension of the intestines, are symptomatic of volvulus of the sigmoid flexure.

Malignant disease of the intestine.—Colicky abdominal pain occurring in a person advanced in life having a history of obstinate constipation associated with an increasing cachexia and anæmia accompanied by a hard nodular tumour which is tender on pressure, is indicative of malignant intestinal disease. The higher up in the canal the disease is located the more acute are the symptoms, while when it is located in the rectum it is indicated by more or less tenesmus brought on by, or occurring during and following, evacuations, the pain radiating down towards the loin, genitals, and upper part of the thigh, accompanied by alternating evacuations of mucus, pus, blood, and fæcal matter.

Conclusion.—From what has already been said it is clear that the chief value of abdominal pain as a diagnostic symptom in abnormal intestinal conditions is not only to call attention to the fact that the patient is suffering from an intra-abdominal disorder of greater or less severity but also in the class of cases requiring surgical intervention for their relief to indicate to the surgeon the locality of the trouble; hence it becomes the duty of the physician in all cases in which severe abdominal pain is a prominent factor to make careful notes of the patient's condition and symptoms when he first sees him, to refrain from the administration of narcotic and cathartic drugs until a surgeon when practicable has seen the patient, a diagnosis made, and a definite line of treatment decided upon.

It must constantly be kept in mind that a severe, sharp, and persistent abdominal pain almost invariably means peritoneal involvement provided the chest has been carefully examined and its diseases excluded, and that sudden cessation of such a pain accompanied by a rise of pulse-rate and increased frequency of the respiration with or without a lowering of the bodily temperature, usually denotes gangrene of the gut and its perforation. Many lives will be saved and thousands of others made more comfortable when physicians generally come to recognise that in all cases of persistent abdominal pain of obscure origin exploratory operations should be performed, for it has been my experience that a cause always does exist when such a pain is present, and that it is usually found with ease when looked for; in other words, when in doubt operate, for as Osler has wisely said, "The surgeon is often called too late, never too early."

New York.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

PRELIMINARY NOTE ON THE DEVELOPMENT OF TRYPANOSOMA IN CULTURES OF THE CUNNINGHAM-LEISHMAN-DONOVAN BODIES OF CACHEXIAL FEVER AND KALA-AZAR.

BY LEONARD ROGERS, M.D., M.R.C.P. LOND.,
CAPTAIN, I.M.S.; ACTING PROFESSOR OF PATHOLOGY, MEDICAL COLLEGE, CALCUTTA.

THE Cunningham-Leishman-Donovan bodies found in the spleens and other organs in cases of cachexial fever (previously known as malarial cachexia) present evident characteristics of protozoal parasites, although the exact class to which they belong is still disputed. Recent successful cultivation of another protozoal parasite—namely, the trypanosoma—led me to try to get the former organism to live and to multiply outside the body in order to allow of its life-history being more closely studied. For this purpose I placed infected blood obtained from the spleen during life in small tubes with a little citrate of soda solution to prevent the blood clotting and kept it under varying conditions. First, they were incubated at 37° C. but it was found that even when numerous in the original blood they had nearly completely disappeared within 24 hours, only a few lightly staining evidently degenerate forms remaining. It, however, occurred to me that in the case of the trypanosoma the organism had been found to live longer outside the body when kept at a lower temperature than it did at blood heat, so I placed some similar culture tubes in an incubator at a temperature of 27° C. I then found that the organisms retained their natural characteristics for several days and in blood films made from the tubes they stained quite as well as in the blood freshly taken from the spleen during life, while not only were they in undiminished numbers but they were actually more numerous than before. At first I thought this might only be an apparent increase as the number of parasites found in two slides made at the same time from fresh blood may vary considerably, but by repeating the observation a number of times I have been able to get conclusive evidence that an increase in the number of the organisms had actually taken place in the culture tubes.

This evidence is of two kinds. First, films were made each day from the fluid blood medium and the number of organisms found in many fields in various parts of the specimen was noted, and it was found that even when they were scantily present in the freshly taken blood they could be found in much larger numbers after from one to three days' incubation at from 22° to 27° C., while in some instances in which they had been numerous in the fresh blood, two or three being found in a single field, after one or two days they had become so numerous that from 50 to 100 have been counted in a single field of an oil immersion lens. Secondly, and of still greater value, is the fact that in the films made after incubation forms showing various stages of subdivision were relatively very numerous, while in those specimens which originally showed a large number of the organisms enormous numbers of the smallest forms were found, many of them in clumps of from 10 to 20 or more, several of which were often seen within a single field of an immersion lens. Around these very numerous forms of varying sizes were scattered so thickly as to look as if they had been sprinkled from a pepper-pot, as was remarked by one medical man on seeing them. Now, it is a very marked feature of films made from freshly drawn spleen blood that the proportion of forms undergoing subdivision is extremely small, so that a good deal of search through specimens showing numerous parasites is necessary in order to make out different stages of the subdivision, such as I have already described in a former communication, and Lieutenant

R. S. Christophers, I.M.S., also remarks on the rarity of these forms in ordinary spleen puncture films. Yet in my specimens from the culture tubes it is quite common to see a number of dividing forms in varying stages in a single field of the microscope and I have met with fields showing nearly complete series of these forms. In such specimens it is easy to make out two methods of multiplication of the parasites. In one form the typical oval organism with a large and a small nucleus enlarges to beyond the usual size, then each nucleus divides once, so that two large and two small nuclei are present in a single cell, after which the cell itself divides into two, the point of division being at one end so that just before the final separation the other ends alone remain united. A second mode of division, which evidently accounts for the very numerous new small forms of the organisms which are very rarely seen in fresh films, commences very much as I described in my former paper by the nuclei undergoing multiple division until a number of them are seen in a single cell. Next, in the culture a kind of slimy zooglea mass is formed, the outline of the original parasite having disappeared, and the minute multiple nuclei appear to sort themselves out in pairs of a large and a small nucleus which gradually increase in size but have as yet no capsule. When they reach a certain dimension, which is smaller than the usual form found in spleen puncture blood, a capsule appears around each, forming a characteristic group of complete young parasites such as occurs in fresh spleen blood. It is worthy of note that in these specimens the blood corpuscles have nearly or entirely been dissolved and have therefore disappeared, so it is quite certain that the forms of subdivision just briefly described take place outside the red corpuscles and in no stages have they been observed within them. It is clear, then, that the parasites are not piroplasma.

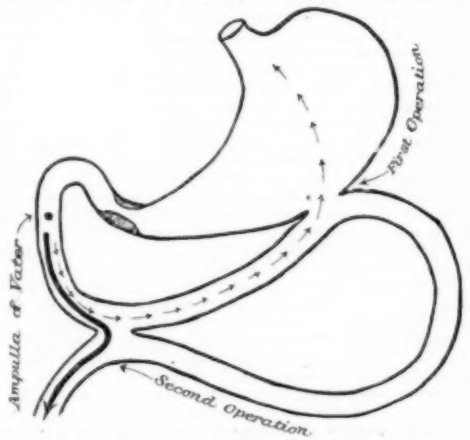
As I found the organisms died out within a few days at 27°C. I next tried a temperature of 22°C. and soon found that it was more suitable for their growth, as even when very few in the freshly drawn blood they were found in much larger numbers within a day or two. Further, a number of larger forms than I had seen in the fresh blood appeared in the citrated blood at this temperature, which led me to look out carefully for flagellated bodies, as the two nuclei of different sizes suggested to me a resemblance to trypanosomes, just as it did to Leishman before. This search was soon rewarded by my finding fully developed trypanosoma in two cases in the cultures. They were best developed in a spleen blood after one day's incubation, although only the usual oval forms were found in the freshly drawn blood and showed many forms undergoing longitudinal splitting, with double flagellæ, macro- and micro-nucleus complete, together with pear-shaped flagellated forms exactly similar to those described by Plimmer in trypanosoma of tsetse-fly disease. The other case, fortunately, was one of kala-azar from Assam, for the spleen blood of which taken by puncture I am indebted to my assistant, Assistant-Surgeon G. C. Chatterjee. In cultures of this many intermediate forms and a few complete trypanosoma were found. Thus this new human trypanosoma has been obtained by culture of the bodies found in the spleen by Leishman, so that the latter must be one stage in the life-history of the organism and not degenerated forms as he at first thought them to be. Further, they have already been obtained from both the endemic form of cachexial fever seen in Lower Bengal and also in the Assam epidemic form known as kala-azar. It is worthy of note that Assistant-Surgeon Chatterjee found a living trypanosome in an anopheles mosquito some time ago,[1] while I am also indebted to him for help in the microscopical examination of my cultures. I hope to be able to publish illustrations of the different stages of the development of the trypanosome at an early date.

Calcutta.

ON OPERATION FOR THE RELIEF OF BILIOUS VOMITING FOLLOWING GASTRO-ENTEROSTOMY.

BY WALTER H. BROWN, F.R.C.S. IREL., M.R.C.S. ENG.,
SURGEON TO THE LEEDS GENERAL INFIRMARY.

THE patient was a woman, aged 36 years, who had undergone a gastro-enterostomy for pyloric stenosis due to old ulcer four months prior to the onset of bilious vomiting. In other respects the operation had been satisfactory. She had gained weight, had no pain, and enjoyed her food, but each morning she vomited about 12 ounces of green bile. This over, she went through the day in comfort and took ordinary food. Her condition was very distressing and after trying lavage and various medicines I reopened the abdomen and performed the operation in the manner indicated in the diagram. (The sketch shows the stomach, anatomical, not pathological.) The result has been good, the vomiting has ceased, and she is quite well.



The dotted line shows the bile tract before, and the thick line after, the second operation of entero-enterostomy.

Regurgitant bilious vomiting has only occurred twice after gastro-enterostomy in my experience of the operation during the last 11 years—namely, the case just mentioned and one other that is waiting for similar treatment. I do not suggest that this procedure is original; probably the same idea has occurred to others who are dealing with the problem of intestinal anastomosis, but I have not seen any case recorded in any English journal.

Leeds.

A CASE OF RUPTURE OF THE BOWEL CAUSED BY COMPRESSED AIR.

BY GERALD W. STONE, M.R.C.S. ENG., L.R.C.P. LOND.,
HOUSE SURGEON TO THE STAMFORD AND RUTLAND INFIRMARY.

BY permission of Mr. T. P. Greenwood, senior surgeon to the Stamford and Rutland Infirmary, I send an account of the following case which is of interest if only on account of its rarity.

A youth, aged 17 years, was admitted into the infirmary on April 22nd, 1904, at 1.45 P.M., with the following history. One and a half hours previously he had "got blown up with an air force-pump" per rectum. He had been driven about eight miles to the hospital. On admission he was in a state of collapse, the pulse was imperceptible, the face was slightly cyanosed, his breathing was short and difficult, and he spoke with great difficulty, but he was suffering more from discomfort than actual pain and complained chiefly of great thirst.

On examination the abdomen was tightly distended with gas; liver dulness was absent. The anus was dilated to about one and a half inches and the lower part of the rectum was prolapsed into it. The finger passed three inches into the rectum and the gut was felt bulging down like a presenting intussusception. An œsophageal tube was passed four inches and was then obstructed, no gas being expelled. A stomach-tube was obstructed at the lower end of the œsophagus. The abdomen was then punctured in the right iliac fossa with an aspirator trocar and cannula and a quantity of gas was expelled with intestinal odour. The abdomen went down to its natural size and the patient was relieved for half an hour, his pulse and general condition improving. He then complained of pain in the lower abdomen which rapidly spread and he died three hours

[1] Indian Medical Gazette, 1901.

after admission. Laparotomy was out of the question owing to his general condition.

Necropsy.—At the post-mortem examination the peritoneal cavity was found to be filled partially with intestinal contents. There were two rents in the anterior wall of the bowel and slightly to the right side; one was one and a half inches and the other was half an inch in length, both being in the long axis of the bowel and eight inches from the anus. The trocar had not penetrated the gut.

The rents were, I think, undoubtedly caused by the nozzle of the pump, both on account of their number and size, and the position suggests that the gut was nipped between the nozzle and the sacrum, although I could find no mark on the latter or bruising of the structures covering it.

The pump is a cylindrical air force-pump; it is pumped full by two men by means of a handle and gives a pressure of 20 pounds to the square inch. On this occasion it had just been pumped full by four youths. On turning a tap the air is expelled in about a second. The tube is about two feet long, made of rubber and wire, and is flexible; the nozzle is brass covered with rubber, in this case much worn. It is round, eight inches long, and graduated from a diameter of one and a half inches to half an inch at the end.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

SHEFFIELD ROYAL HOSPITAL.

A FATAL CASE OF CHRONIC INTERSTITIAL NEPHRITIS IN A GIRL EIGHT YEARS OLD WITH MARKED HÆMORRHAGIC SYMPTOMS.

(Under the care of Dr. ARTHUR HALL.)

A GIRL, aged eight years, was admitted into the Sheffield Royal Hospital, under the care of Dr. Hall, on Jan. 26th, 1904. Three months previously she had a fit in which she was convulsed all over and difficult to restrain. It lasted more or less for nine hours, during the whole of which time she remained unconscious. She bit the left side of her tongue but did not pass urine or fæces during the attack. After she recovered consciousness she complained of severe headache which continued daily; she also seemed worried by the other children and was irritable with them. Two weeks later she had another attack of a similar character lasting for ten hours, in which she was convulsed, her lips became blue, and there was much blood-stained froth from the mouth. After recovering consciousness she frequently would say that she was going to have another fit and would lie down and sway her body about. This occurred several times each day and would last for five minutes or so. She did not lose consciousness at these times but complained of pain in her stomach. These queer feelings lasted up to admission. Three days before admission she had an attack of what appears from the mother's description to have been tetany, lasting for eight hours. The same day and the following she vomited dark clotted blood, some of which came down her nose; there was further epistaxis the day after. Since then she had been paler in colour. The last two days the motions had been dark in colour and the urine was said to have been reddish as if containing blood. As regards previous illnesses she had measles very mildly and whooping-cough five years previously. One year previously she attended as an out-patient at the Children's Hospital for an abscess in the front of the neck. She was said always to have passed a large quantity of urine at frequent intervals. She was quite well till seven years of age when she began to have "bilious attacks." She would drink large quantities of water. She had had nocturnal enuresis always. She had never had scarlet fever and never had any swelling until after the fits.

The patient's condition on admission was as follows. She was cachectic and dull in appearance. The pupils were moderately dilated. The lips were dry. The tongue was dry and furred. The respirations were 74 and shallow through the mouth. She had a short dry cough at intervals. The pulse was 142 and of low tension. She moaned frequently and put her left hand up to the top of her head. She lay quite still and more or less curled up. There were four small purple spots on the front of the abdomen. She had some pain in the epigastrium. There was no evidence of anything abnormal in the lungs. As regards the heart, the whole præcordium heaved with each impulse. The apex beat was in the fifth left space in the nipple line. An apical systolic murmur was heard. The upper border of the liver could be felt at the seventh rib and the lower border across the abdomen just above the umbilicus. The spleen was not enlarged. The abdominal walls were soft and yielding. There was no paralysis or loss of sensation in the arms or the legs. Knee-jerks were not obtained. The plantar reflexes were present. The urine was clear, alkaline, and of specific gravity 1010. Albumin was present in considerable quantity. There was no sugar. The amount passed was only slight. A blood count gave the following result: erythrocytes, 2,680,000 per cubic millimetre; leucocytes, 48,000 per cubic millimetre (a large number were mononuclears); hæmoglobin, 40 per cent.; with a colour index of 0·75.

From 4 to 8 A.M. on Jan. 28th she coughed a great deal, bringing up a considerable amount of frothy sputa consisting almost entirely of bright arterial blood, altogether about half a pint, in small quantities at a time. There were five or six purpuric patches on the skin of the abdomen and one or two on the legs, together with a large bruise above the right knee. The respirations were markedly irregular in rhythm, varying from very rapid to quite slow. These alternated indefinitely. The pulse was 120 and regular. The bowels were constipated, some melæna being present. On the 29th hæmorrhage occurred from the nose and mouth. The respirations, which were irregular in rhythm, were 50 per minute. The pulse was 132 and regular. There was dulness up to the sixth rib in the left axillary line, with diminished breath sounds at the left base. Pleuritic friction was audible at both bases. The abdomen was slightly distended. Melæna was still present. On the 30th a high-pitched, creaking, musical murmur was heard over the upper part of the præcordium; it was loudest in the region of the infundibulum but carried widely over the chest; it was systolic in time and probably due to pericardial friction. There were some dulness and diminished breath sounds with pleuritic friction at the right base. On the 31st the pericardial friction sound could not be heard. On Feb. 1st she was very pale and drowsy. The systolic rub was again audible over the heart. There were some dulness and bronchial breathing at the right apex. On ophthalmoscopic examination both fundi were found to be occupied in large part by pearly-white patches chiefly around the discs. There were no hæmorrhages along the vessels. There was a fan-shaped white area with black patches in the left eye. On the 5th an extremely loud to-and-fro pericardial friction sound was audible over the præcordium. The sound was like that of rubbing the hand over a tight balloon and was almost painful to the ear in its roughness. The cardiac dulness reached to the fourth rib above, the margin of the ribs below, and the mid-sternum on the right side. On the 9th the cardiac dulness extended to the right edge of the sternum, upwards to the third costal cartilage, and to the anterior axillary line in the sixth space. Friction sounds could be heard as before chiefly over the tricuspid area; systolic (? hæmic) murmurs were heard over the mitral and pulmonary areas. More epistaxis occurred. On the 12th the condition remained much the same; the friction sounds over the heart were less loud. Some hæmorrhage from the nose and ear occurred during the night. On the 13th the dulness over the left base still continued. A needle drew off some blood-stained fluid. On the 15th more hæmoptysis occurred. Sordes were on the teeth. The patient was very drowsy. The pupils were dilated. Some hæmorrhagic spots were present on the arms and the chest. On the 22nd the child gradually became worse and died the same day. The temperature was normal or subnormal throughout.

Necropsy.—A post-mortem examination was made on Feb. 23rd. Rigidity was present. There was no lividity. The body was emaciated. The abdominal wall was greenish. There was no eruption. Vulvitis was present. The head was not examined. Blood-stained fluid was found in both pleuræ. The pleuræ were rough and of a purple colour. The upper lobe of the right lung was solid and of a brownish

colour; it did not float. Œdema of the lower lobes was present. There was some hæmorrhage into the apex of the left lung; the rest of the upper lobe was œdematous. The whole of the lower lobe was solid; it was of a purple colour, was filled with blood, and would not float. As regards the heart, a certain amount of blood-stained pericardial effusion was present. There was great hypertrophy of the left ventricle; it weighed eight ounces. The visceral pericardium was much thickened, the inflammatory deposit forming thick, white deposits with a cartilaginous consistence. There was one large mass over the right ventricle in front having a thickness of about half an inch. The valves were normal. Some ascitic fluid was found in the abdomen. The mucosa of the stomach was congested. There were no hæmorrhages in the intestines. The liver was very firm; its surface was smooth; it was pale on section. The spleen was firm but was not abnormal. The pancreas was hard on section. The suprarenals were large but were not abnormal. The kidneys were atrophied, each weighing less than one ounce. The left was smaller than the right. The capsules stripped easily but left rough irregular surfaces having a coarsely granular appearance with marked irregular pale areas of depression, some quite large. The colour of the kidneys was mottled. The right was distinctly red with paler areas; the left was paler on the whole. On section it was found that the changes were more advanced in the left than the right, the actual cortical tissue remaining in the former being very slight. The quantity, however, was not regularly diminished, being almost entirely gone at places whilst hardly narrowed at all in others. The same condition but less marked was seen in the right kidney. A noticeable feature in each case was the dilatation of the pelvis and calyces. This was also much more advanced in the left kidney than in the right, and the chief narrowing of the cortex was opposite the dilated calyces, but a similar tendency was visible in the right also. Besides the dilatation of the pelves there was a notable thickening of the coats of these and the calyces, which could be traced down to the ureters on both sides. On the right side this hypertrophy of the ureter was accompanied by variations in its calibre. The post-mortem notes refer to the ureters as being dilated on both sides. On microscopical examination the whole of the kidney substance was permeated by considerable fibrous tissue, varying in amount in different parts of the cortex where it formed dense fibrosed areas. The blood-vessels were extremely congested in the section, the small veins and capillaries being stuffed with corpuscles. The arteries showed marked thickening of the intima and in the larger vessels there was evident convolution. One small vein contained a thrombus. The glomeruli did not show marked changes but there was slight capsular thickening. Many of the tubules showed marked signs of being compressed, whilst others were dilated. Hyaline casts filled many of them. The wall of the calyx was greatly thickened and was composed of fibrous and (?) unstriped muscular tissue.

Remarks by Dr. HALL.—Cases of chronic Bright's disease are not usually expected in childhood, although by no means unknown. Guthrie, in a paper read before the Harveian Society, was able to refer to seven fatal cases in children between the ages of five and 14 years and no doubt many more have been recorded from time to time. West, in the Lettsomian lectures for 1900, refers to this point and states that probably they are of more frequent occurrence than is generally thought to be the case. Apart, however, from the actual occurrence of the disease in childhood, the above case is worthy of attention because of the extreme severity of the symptoms, their apparently rapid advance after a sudden uræmic onset, and the unusual variety and intensity of the hæmorrhages. In reviewing the history of this case there are many interesting points on which I would make some remarks.

As regards onset the case bears a striking resemblance to what one so frequently sees in adults—namely, a sudden severe attack of uræmic convulsions, without definite previous symptoms leading to a diagnosis. This occurred three or four months only before death and appears to have been the first definite ailment noticed. There is nothing in the history of these convulsions calling for especial notice; they were typical. It is worth noting, however, that three days before admission the child had an attack which, so far as the description goes, was indistinguishable from tetany. Guthrie records this as occurring in two out of the seven cases which he collected.

The amount and variety of hæmorrhages formed a very striking feature of this case. On admission there had been for a day or two hæmatemesis and epistaxis. Whether all the blood had come primarily from the nose it is not possible to say but it would seem probable. In that case the melæna which followed probably had the same origin. And this applies also to the melæna of a later date which probably followed swallowing of bloody sputa. There is thus no actual proof of any hæmorrhage from the stomach or intestines. One knows how prone children are to swallow their sputa in all circumstances and probably this is sufficient to account for all the melæna. In addition to the epistaxis on admission which recurred again later, there were distinct subcutaneous hæmorrhages on the abdomen and legs and later on the arms and chest. These, however, were really ecchymoses and never at any time were there any typical purpura-like petechiæ. Whilst in hospital there was a considerable hæmoptysis and the necropsy showed distinct hæmorrhagic lesions in both lungs. Besides this there was bleeding from the ear, probably part of an oozing of the last stage, and the pleural and pericardial effusions were blood-stained. With all this it is worth noting that during her stay in hospital there was never any hæmaturia. West refers to the rarity of hæmoptysis in this disease and says that he has never seen a case, and he also notes how unusual it is to find any hæmorrhagic lesion of the skin, although other lesions of the skin in granular kidney are frequent and various.

The cardiac hypertrophy was a very striking feature of the case and, as is always the case in the pliable soft thorax of the child, the resultant heaving of the præcordium was very marked. The arterial tension certainly did not seem high at any time that I examined it; possibly the condition was overlooked and a more careful examination would have revealed it. Guthrie alludes to the relation between cardiac hypertrophy and absence of œdema, as to their possible cause and effect, and certainly in this case there was at no period any trace of œdema observed. As regards the intracardiac murmurs heard over the mitral and pulmonary valves they were probably hæmic and associated with the excessive losses of blood.

The very severe pericarditis with extremely rough sounds and palpable friction and the associated pleurisy formed a very striking feature of the latter part of the illness. The extreme plastic character of the former found after death was sufficient to account fully for the character of the physical signs which I have never heard equalled. The pericardium presented none of the usual honeycombed or bread-and-butter appearance but seemed as though it was stuck over with pieces of firm fat or cartilage. In Guthrie's seven cases neither pericarditis nor pleurisy was observed.

Retinal changes, as stated above, were very extensive and striking, though the arrangement of the patches was more diffuse and general than that of the retinitis of albuminuria as usually seen in the adult. No retinal changes were observed in the seven cases recorded by Guthrie.

What was the cause? Scarlet fever may be excluded unless one supposes that the child had an attack which was not recognised. But even then the requisite secondary acute nephritis could hardly have been overlooked also. We may safely dismiss it as a cause. There remains an attack of measles and pertussis five years before, which seems to have been without complications. There is, then, nothing to indicate that this was the later stage of an acute parenchymatous nephritis. So far as the history goes there is nothing to point to the origin of the disease.

As regards the hypertrophy and dilatation of the calyces, pelves, and ureters, there was nothing to indicate any obstruction of the urinary passages but I would suggest that possibly they were caused by the polyuria to which the mother referred, associated with the child's attendance at school. I do not think it unreasonable to suppose that the frequent desire to micturate of granular nephritis might in a child be daily restrained possibly owing to the difficulty of constantly leaving school to urinate and thus the bladder might be over-distended and so produce the increased pressure and dilatation of the ureters and pelves. At the time of the necropsy, unfortunately, no very definite observation was made as to the actual hypertrophy of the bladder but the house physician, Dr. F. W. Schofield, assures me that it was opened and that there was no evidence of any obstruction.

For the notes of the case I am indebted to Dr. Schofield and to Mr. Henry, clinical clerk.

Medical Societies.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—The provincial meeting of this society took place at Clifton on June 18th, under the chairmanship of Dr. Theodore Fisher. Prior to the meeting clinical cases were shown at the Hospital for Sick Children, St. Michael's-hill, and at the Medical Library, University College.—Mr. D. S. Gerrish showed some remarkable examples of Progressive Muscular Atrophy of the family type. He had been able to trace the disease back through five generations and over 40 members of the family had been affected. The usual history was that up to the age of 23 years the patients had been remarkable for their physique and muscular strength but after that age the extensor muscles of the leg began to waste, chiefly the anterior tibials and the peronei. The condition slowly and steadily increased and by the fiftieth year it had extended to the extensor muscles of the arms. Sensation had never been affected but the reaction of degeneration was present. Although their hands were affected the patients retained their grip but extension became very weak.—Dr. Bertram M. H. Rogers read the notes of a case of Congenital Stricture of the Œsophagus. An infant, about two years old, began to suffer from vomiting, the condition getting rapidly worse and being accompanied by emaciation. No definite physical signs of disease were present save much mucus in the lungs and over-distension of the cervical veins on crying. Test meals showed that most of the food entered the stomach but part seemed to be retained in the œsophagus; the use of the x rays and an œsophageal tube threw little light on the nature of the case. The child died from an increase of the bronchial trouble and dyspnœa. At the necropsy there was found a fairly tight stricture about an inch from the lower end of the œsophagus.—Mr. H. Elwin Harris showed three cases: (1) Congenital Absence of the Left Ear with Facial Paralysis; (2) Congenital Absence of the Left Eye with Cleft Palate and Harelip; and (3) Intra-uterine Amputation of Three Extremities with Webbed Fingers on the Hand of the only Limb. The last case was a very remarkable one, as both legs were absent from one and a half inches below the hip-joint and the left arm was removed flush with the shoulder-joint. On the stump of the right lower extremity was a very minute leg in which a rudimentary knee-joint, ankle, and foot could be traced. He did not know any satisfactory explanation of such deformities and did not think that the theory as to amniotic adhesions was conclusive.—Mr. R. Clement Lucas expressed his disbelief in the theories current as to intra-uterine malformations such as maternal impressions, amputation by the funis, and the like. He thought that if any satisfactory theory could be formed it would be one in which the nervous system played an important part.—Mr. George Pernet thought that such a theory as that of maternal impressions was a nuisance to science and should no longer be tolerated.—Dr. J. Michell Clarke showed a case of Hydrocephalus in which recovery had occurred. The illness probably began at the age of six months and the patient had been under observation for some years. Intelligence had never been affected but there had been marked weakness of the muscles of the trunk and lower extremities. After three years improvement set in and the only traces of disease visible were the large size of the head and some signs of partial degeneration of the pyramidal tracts. The treatment had been by small doses of grey powder continued over long periods.—Mr. C. A. Morton read the notes of a case of Hydrocephalus in which drainage of the ventricles into the subdural space was established. The method of operation was that introduced by Mr. W. Watson Cheyne in which a communication was established between the distended ventricle and the subdural space so that the fluid might be readily absorbed by the meningeal veins. The patient was an infant, aged seven months, suffering from congenital hydrocephalus. The first operation consisted in turning down a flap on the right side of the skull below the anterior fontanelle and introducing a piece of fine rubber tubing, one end of which was passed into the ventricle and the other between the dura mater and the cortex. The flap of dura mater and membranous skull was then replaced and stitched carefully so that all oozing had ceased at the end of 24 hours. On the eleventh day after the operation the head, which had been much smaller as the result of the operation, again showed signs of enlarging. A few months later the operation was repeated on the opposite side, the head still increasing in size. A small rectangular metal tube was first employed but as the fluid would not flow through it a rubber tube was inserted. Some leakage from the operation wound continued for a few days and the cranial bones were over-riding. The temperature ran up to 105° F. on the evening of the tenth day and the baby died. At the necropsy the brain was found to be lying about an inch from the cranium all round. There was no meningitis and the drainage-tubes appeared to be acting well. Mr. Morton commented on the fact that although the drainage of the ventricle had been maintained continuously for two months after the first operation, yet the head had increased in size from excessive fluid pressure.—Dr. James Taylor congratulated Dr. Clarke on the successful result in his case. It was not often that a case of recovery from hydrocephalus was seen, even after surgical measures, and for a case to recover after medical measures was rarer still. He had noted in some cases of recovery from hydrocephalus that the child seemed abnormally sharp and above the average in intelligence.—Dr. G. A. Sutherland thought that recovery in cases of congenital hydrocephalus was not so very uncommon, the commonest underlying causes being syphilitic meningitis and the cure being effected by a prolonged mercurial course. As regards the acquired cases, many of which dated from an attack of non-tuberculous basilar meningitis in infancy, he thought that medical measures were useless and that the most hopeful line of treatment was by surgical intervention on the lines described by Mr. Morton.—Mr. Lucas also viewed the condition of hydrocephalus as due to mechanical obstruction and had made various attempts to remove the ventricular fluid. He had tried to drain the ventricle into the tissues beneath the scalp but had not found absorption to take place in that region. As regards other operative measures it seemed impossible at present to descend to the base of the brain but he thought that advances would be made in that direction, for it was only necessary to let the fluid communicate sufficiently freely with its proper arachnoid space for the patients to be cured.—Dr. George Carpenter agreed that many of these cases were syphilitic in origin and had seen at least half a dozen of them cured by mercury and chalk.—Mr. J. Lacy Firth showed a case of Congenital Dislocation of the Hip which had been under treatment by the Lorenz method for four months.—Mr. A. H. Tubby thought that this method would only bring about cures in comparatively slight cases—namely, those in which the head was quite near to the acetabulum and was of a good shape and the acetabulum was widely open. The results, so far as they had gone, might be classified under three heads: (1) actual reposition; (2) good or fair results; and (3) no result at all.—Mr. J. Paul Bush showed a child with Extroversion of the Bladder. A portion of the mucous membrane had "skinned over" under the constant application of a saturated solution of boric acid. He proposed doing the old operation of turning over an upper central flap and covering this by sliding two lateral flaps over it.

EDINBURGH OBSTETRICAL SOCIETY.—The eighth special summer conjoint meeting with the Glasgow Obstetrical Society took place in Edinburgh on July 13th, Dr. N. T. Brewis, the President, occupying the chair.—Professor J. A. C. Kynoch (Dundee) opened a discussion on the Use and Abuse of the Midwifery Forceps. The theme was, he thought, opportune as the nation was threatened with the deprivation of 500 children per week and the declining birth-rate was one of the problems of the day and at the same time there was too high a death-rate from puerperal fever. Was a frequent or sparing use of forceps desirable and what were the relative effects on the fœtal and maternal mortality? Some considered that the use of forceps was too long delayed, resulting in loss of fœtal life; others believed that their use was responsible for many injuries which fell to the gynæcologist for treatment. The axis-traction forceps were a great improvement on the older type and involved less injurious compression on the fœtal head. It was almost impossible to lay down a hard-and-fast rule as to the indications and contra-indications for the forceps. Each case required to be considered on its own merits and it must be to a great extent a matter for individual judgment, and there could be little doubt that it was one of the truest maxims in midwifery that so long as the membranes were entire and

the liquor amnii was present no danger would accrue to mother or child by the continuation of labour, except perhaps by the occurrence of convulsions and hæmorrhage. Application of the forceps for urgent conditions within the cervix not fully dilated might be accompanied with disastrous results, but if experience showed that Bossi's instrument could fully dilate the cervix without any serious laceration then this indication for the application of the forceps would disappear. During Dr. Johnston's mastership, when forceps were applied in 75 per cent. of the cases, in many of which the cervix was undilated, the result was a doubling of the maternal mortality as compared with more conservative practice. But his rate of infantile mortality was only 9 per cent., compared with 53 per cent. under Dr. Clarke's mastership. The most frequent reason for the application of forceps was the unsatisfactory advance of the head during the second stage of labour as the result of feeble pains or rigidity of the soft parts, especially in primiparous patients. A time limit for interference was a tolerably trustworthy guide. The average second stage in a multipara might be taken as one and a half hours and in a primipara as two and a half hours; then it might be considered desirable (though perhaps not absolutely necessary) to put on the forceps if the second stage lasted over two hours in a multipara and four hours in a primipara. Such a rule was not always followed. Winckel did not consider that weak pains indicated forceps and that they should only be applied if signs of danger to mother or child arose. Galabin advised recourse to forceps without great reluctance. In minor degrees of justo-minor pelvis, axis-traction forceps were very safe. In occipito-posterior cases the application of forceps usually assisted rotation forwards in the majority of cases. In face cases expectancy was the best treatment to adopt as the majority of those cases terminated naturally. Application of the forceps to the after-coming head should be reserved for cases where jaw traction was impossible or when the occiput was posterior. In prolapse of the cord, if reposition failed, then forceps afforded the best chance in multiparæ but version in primiparæ. In cases of marginal placenta prævia in the interests of the child forceps should be applied if the os was dilated and the pains were not strong enough to deliver the child quickly. In applying the forceps an attempt should always be made to apply them to the biparietal diameter of the head as there was less chance of the forceps slipping. Traction should always be made "*non vi sed arte*." The percentage of forceps cases was much smaller in hospital than in general practice. In ten continental maternities Professor Kynoch found that the average was 3·6 per cent.; in these the forceps were only applied if danger arose to mother or child. The average in the maternities in this country was slightly higher, probably because the hospitals were smaller and contained a larger proportion of difficult cases and also because version was still employed on the continent for some cases where axis-traction forceps would be used here. The percentage in outdoor and indoor maternity cases differed very much. In Edinburgh the indoor percentage was 10 per cent. and the outdoor was 4·3 per cent.; in Glasgow the indoor percentage was 18 per cent. and the outdoor was 6 per cent. of forceps cases; in Dundee the indoor was 7 per cent. and the outdoor was 5 per cent.; in Manchester the indoor was 9 per cent. and the outdoor was 1 per cent.; in Dublin the indoor was 3·5 per cent. and the outdoor was 1·5 per cent. The effects of forceps on infantile mortality could only be obtained from reports which stated whether the child was alive before their application or not. In four continental maternities 6 per cent. of forceps cases was the average infantile death-rate where the forceps might be responsible in inducing the fatality. In private practice Bockelmann of Berlin applied forceps in 40 per cent. of all his cases. Dewar, in a recent paper to that society, contrasted 700 cases in earlier practice with 300 cases at a later date; in the former he applied forceps in 11 per cent. of his cases and in the latter 35 per cent. Both Bockelmann's and Dewar's figures showed a gain in the infantile mortality as a consequence of a more frequent application of forceps. In the hands of a skilful operator the moderately frequent use of the forceps was to be recommended if the condition was satisfactory. Attention to antiseptics had conferred enormous benefits in obstetric practice but much also depended on the technique of the application of the forceps. To obtain this clinical midwifery should become a compulsory part of medical education and for this purpose full advantage should be taken of the opportunities in maternity hospitals by having a residence for students attached to them.—Dr. M. Dewar, Dr. Jas. Ritchie, and Dr. Elsie Maud Inglis (Edinburgh), Dr. S. MacVie (Chirnside), Professor Murdoch Cameron (Glasgow), Dr. J. R. Hamilton (Hawick), Dr. R. Somerville (Galashiels), Dr. R. Spence (Burntisland), and Dr. Kelly, Dr. Reid, and Dr. Russell (Glasgow) joined in the discussion.

DERMATOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on July 13th, Sir Stephen Mackenzie being in the chair. The following are some of the more important cases which were shown. Dr. J. H. Sequeira showed a man, aged 66 years, the subject of a marked and universal Pigmentation. The patient was a native of Bedfordshire and though he had been to South America he had not suffered from any tropical disease. About three years ago his face and hands and then his body began to darken gradually. He suffered also severely from bronchitis and emphysema, and there was some enlargement of the liver. The whole of the body, the limbs, the visible mucous membranes, and the conjunctivæ showed a purplish black pigmentation, and microscopical examination showed that the pigment lay in the normal positions but was excessive. The hair had turned white in the usual way and the hyperpigmentation in no way affected it. The blood did not show the presence of any pigment and the urine was also free from pigment. The diagnosis offered was that of hæmachromatosis.—Dr. H. Radcliffe Crocker showed the following two cases. 1. A male, aged 21 years, affected with Xanthoma Tuberosum of the Knees and Elbows and a small plane patch on the right eyelid. There was a history of a similar affection in a brother who had died. The disease had commenced in this patient at the age of 13 or 14 years. When shown there were large cushionlike tumours on the extensor surfaces of both knees and elbows, the tumours being made up of yellowish nodes. It was interesting to note that, compared with a drawing made of him when first seen several years ago, there was a slight tendency to spontaneous involution in one of the patches. 2. A man, aged 28 years, who had served in South Africa as a soldier and was now suffering from what was probably an early stage of Mycosis Fungoides. His history showed that he had suffered from so-called eczema for ten years but during the last 11 weeks he had developed large infiltrated patches over the trunk and arms and legs. Some of these looked extremely like syphilides but there was a large slightly moist area made up of circinate patches on the back which was much more suggestive of mycosis fungoides. There were also the slightly infiltrated brownish follicular masses so often seen in the latter disease.—Mr. Willmott H. Evans showed a woman suffering from Herpes Gestationis. Her history was that in the fifth month of her sixth pregnancy three and a half years ago she was attacked by a bullous eruption which lasted until one week after confinement when it disappeared spontaneously. Since then she had had two early miscarriages without any cutaneous trouble and now, in the fifth month of pregnancy, she was attacked again. The lesions consisted of a fine gyrate erythema in places arranged in concentric rings and associated with large bullæ.—Mr. Charles Gibbs showed a man, aged 62 years, suffering from very widespread Granulomatous Lesions. The patient had suffered in 1869 from penile sores and buboes but these had not been followed by any constitutional lesions and he had married a year later and had had healthy children. Eight years later he had suffered from ulceration and swelling of the lips and an eruption on the face, which had cleared up on mercurial treatment. Later again the penis began to swell and two years after this an eruption appeared on the abdomen and the buttocks. These later symptoms had proved resistant to large doses of iodide. When exhibited he showed an elephantiasic condition of the lips and the penis and on the buttocks and thighs a vast area of somewhat psoriasiform eruption, deeply infiltrated but with little scarring, while in places upon it were thick clusters of small cutaneous horns reaching an elevation of about half an inch. It could not be positively determined whether this eruption was of a tuberculous or of a syphilitic nature.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on July 14th, Dr. H. Macnaughton-Jones, a Vice-President, being in the chair.—Mr. Christopher Martin reported a case of the Removal of a Bone Crochet Needle five inches long from the Abdominal Cavity. It had been employed by the patient, a widow, aged 48 years, to

procure abortion under the delusion that she was pregnant. It had perforated the uterus and found its way into the left iliac fossa. It had caused little or no trouble but the woman became alarmed and had been brought to him a fortnight after the occurrence. She made a good recovery.—Mr. F. Bowreman Jessett reported a case of Gangrene of the Leg after Abdominal Hysterectomy for the Removal of a Giant Myoma weighing 28 pounds 5 ounces. The patient with the aid of saline solution rallied from the operation but within two hours complained of pain in the leg which was discoloured and cold. A line of demarcation showed itself just above the patella and a fortnight after the hysterectomy Mr. Jessett amputated the leg at the junction of the upper and middle thirds. She bore the operation well but gradually lost ground and died on the fourth day after the operation. The abdominal wound was firmly healed but there was some suppuration in the stump. There was a firm clot in the external iliac artery extending for about one inch downwards from its junction with the common iliac. There was extensive disease of the kidneys which had not been expected as the urine tested before the first operation had contained only a mere trace of albumin. The gangrene had been dry throughout.—In the discussion which followed Mr. Charles Ryall, Dr. Heywood Smith, Dr. J. J. Macan, Mrs. Scharlieb, M.D., and others took part, the prevailing view being that owing to the pressure of the tumour upon the arteries in the pelvis inflammation had led to the formation of a clot which had been dislodged in the unavoidable manipulation during the removal of the tumour.—Dr. Macnaughton-Jones read a paper on Accessory Fallopian Tubes and their Relation to Broad Ligament Cysts and Hydrosalpinx, supporting the views set forth by Doran, Kosmann, Handley, Wells, Shattock, and Hamilton Bell, that neither broad ligament cysts (which Doran and Kosmann attributed to accessory Muellerian ducts) nor accessory hydrosalpinx (sactoparasalpinx serosa) were derived from the Wolffian duct but originated in the pronephric funnels of Mueller's ducts. This view was illustrated by the projection of specimens with the epidiascope; the first showed cysts derived from the Fallopian tube or from diverticula of it; the fimbriæ were absent but were represented by two cysts. In a second specimen both the pedicle of the cyst and its wall were muscular and it was lined with ciliated and columnar epithelium. In the third specimen there was a cyst in the free edge of the broad ligament with two flattened cysts attached, while from the ostium to its attachment there were two small cysts and an accessory Fallopian tube. These cysts had not been examined microscopically, but when held up to a strong light the tubal plicæ could be seen through the cyst wall. Dr. W. S. Handley, who had examined the specimens, had declared the second one to be undoubtedly an accessory Fallopian tube and the cysts in the third to be abnormal representatives of the pronephric funnels.—Dr. S. Jervois Aarons showed a new Uterine Mop which he had had made to obviate the difficulty of removing the cotton wool from Playfair's probe after use. It consisted of a cap woven in absorbent material and fitting on to a sound the end of which was of plated copper flexible enough to be bent to any desirable curve.

Reviews and Notices of Books.

Diseases of the Intestines and Peritoneum. By Dr. HERMANN NOTHNAGEL, Professor of Special Pathology and Therapy, University of Vienna. Edited, with additions, by HUMPHRY D. ROLLESTON, M.D. Cantab., F.R.C.P. Lond. Authorised Translation under the Editorial Supervision of ALFRED STENGEL, M.D. London, Philadelphia, and New York: W. B. Saunders and Co. 1904. Pp. 1032. Price 21*s.* net.

THIS volume of Professor Nothnagel's well-known "Encyclopædia of Practical Medicine" opens with an account of the processes concerned in intestinal digestion and we here note that the description of the action of the various secretions has been brought up to date by the additions of the editor. The reader is next treated to an exhaustive account of the different micro-organisms of the intestine, including the various bacilli, cocci, blastomycetes, and moulds; it would appear that there are no less than 38 different varieties located in the human alimentary canal. The fæces next receive adequate notice and here the section devoted to the subject of fatty stools merits by its completeness a well-deserved study.

After these preliminary considerations the author passes on to the conditions of disease. Constipation is first dealt with and the treatment is considered under the heads of Dietetic, Physical, and Medicinal Measures. He wisely advises a very restricted use of the latter; it is, however, not possible entirely to discard them and amongst those recommended are aloes, jalap, podophyllin, and cascara. The section on Diarrhœa enters fully into all its different forms; then follow those on Dyspepsia of the Intestine, Meteorism, and Intestinal Pain. With regard to the abdominal pain occurring sometimes in hysterical patients, the difficulty in diagnosing this from peritonitis is pointed out; in both diseases violent attacks of pain in the abdomen occur of an almost unbearable character; frequently there is collapse with all its accompanying symptoms; there are also strangury and great abdominal tenderness on slight pressure. The diagnosis may be made, however, by the vomiting which is rarely absent in very acute peritonitis and by the hyperalgesia of the skin of the abdomen in hysteria, which symptom is never seen in peritonitis.

In the treatment of intestinal hæmorrhage the author lays special stress on the administration of opium, inasmuch as this drug fulfils the main indication for treatment—viz., arrest of the peristalsis. He advises against the employment of cold by ice-bags, ice compresses, or a Leiter's coil, inasmuch as the cold cannot possibly exert any direct effect on the bleeding spot; as a matter of fact, the author is inclined to believe that ice compresses may actually do harm by increasing the peristaltic movements of the intestine.

The conditions of the urine in diseases of the intestine next occupy attention. The various states met with, as the quantity, cylindruria, albuminuria, and casts, are considered; whilst with regard to indicanuria the reader will find here an account fully up to date. This condition of the urine has been shown to occur in the following circumstances: in occlusion of the small intestine, in contradistinction to obstruction in the large, unless in long-standing cases of the latter. It may be also extremely marked in diffuse peritonitis, particularly in the acute purulent but also in the chronic form. It is also found in diseases accompanied with diarrhœa, such as enteric fever, cholera, tuberculous ulceration, and simple catarrh of the intestine. Lastly, the presence of acetone in the urine receives attention.

In his remarks on Catarrh of the Intestine Professor Nothnagel considers the appearance of mucus in the fæces to be the only diagnostic feature of any value but as regards the localisation of the catarrhal process he has much more to say. He considers that this localisation is of great practical importance, for the methods of treatment will vary according to the site. An opinion may be gathered from the presence or the absence of icterus, the nature of the pain, and other points, but the main decision is to be arrived at almost exclusively from an examination of the fæces, such as the nature of the mucus found, the presence of bile pigment and its more or less pronounced reaction, the acid reaction of the dejecta, and the presence of undigested food particles. With regard to the judgment to be derived from the character of the mucus the author holds that the evacuation of pure mucus without any fæcal matter indicates catarrh of the rectum and sigmoid flexure and descending colon. Catarrh of the same portions of the large intestine is also shown by the passage of solid balls of fæcal matter, particularly small masses, covered with

a layer of mucus. Hyaline microscopic lumps of mucus intimately mixed with solid or pultaceous-solid stools, no mucus being seen with the naked eye, demonstrate catarrh of the upper portion of the large without involvement of the lower portion, and it may also show catarrh of the small intestine. The whole of the large intestine is involved when thin small shreds of mucus are intimately mixed with semi-liquid faecal matter but here the mucus can be recognised with the naked eye.

A very exhaustive list of the various forms of ulceration that attack the intestine is given, no fewer than 24 varieties being mentioned. As regards the diagnosis of a duodenal ulcer Chvostek's test would seem to be the best, whereas the character and date of appearance of the pain and whether or not it is relieved by vomiting do not appear to be of much assistance. There is an able chapter on Stenosis and Occlusion of the Intestine in general, the anatomy being first portrayed. Then follow remarks on acute occlusion of the bowel and a very full description of the clinical features with its prognosis and course. The subject of new growths, malignant and benign, is next dealt with. Statistics from many authors are given which bring out one characteristic point very well—namely, the rarity of carcinoma of the small intestine as compared with that of the large. The histological and macroscopic characters of malignant neoplasms are succinctly described and then the symptomatology is given, that of the large intestine, the rectum, the duodenum, and the small intestine being described in graphic detail. Sarcomatous tumours are to be distinguished from carcinomatous by the following considerations. The former are much less frequent and the small intestine rather than the large is involved. The clinical picture also differs: in carcinoma the local symptoms chiefly predominate in the early stages, whilst the impairment of the general health is rarely seen until later; exactly the reverse is the case with the sarcomata. The latter, again, do not produce stenosis of the bowel, and intestinal rigidity, so marked in carcinoma, is only exceptionally met with in sarcoma. As regards the course of the disease in the two classes, it is very rapid in sarcoma and usually slow in cancer. After dealing with the malignant, benign growths next receive attention, such as fibroma, lipoma, papilloma, myoma, fibromyoma, and angioma.

In the section on Internal Stricture of the Intestine we fully agree with the author's remarks concerning the rarity of this condition as a result of dysentery and this is the view held by Woodward as the outcome of his large experience in the American war of the Secession. In the remarks on intussusception the well-known statistics of Treves as regards the relative frequency of the sites are not mentioned; as these statistics place the subject in the clearest possible light their inclusion would have added to the excellence of this part of the work. The author's views on the manner in which the condition is produced are as follows. There is first of all an energetic annular contraction of some portion of the intestine, followed by the action of the musculature of the intestine *below—not above*—the contracted spot producing the invagination, the longitudinal muscular fibres pulling the normal intestine situated below the point of spastic constriction upwards over the constricted part of the bowel. In the further progress of the case it is then possible that the spasmodic contractions of the bowel above the spot carry the incarcerated head further downwards.

Various other matters are dealt with which want of space forbids us to notice but we may draw attention to the concluding remarks on diagnosis with reference to the seat and anatomical character of the lesion producing either stenosis or occlusion; these are illustrated by some excellent plates showing the appearance of the intestines in the different cases. The various methods of treatment are fully given, whilst with regard to surgical measures the author wisely lays stress on the fact that "success of operation increases in proportion to the early date at which it is undertaken."

The final portion of the work is occupied with the Diseases of the Peritoneum. The physiology of the membrane is first described; then after a section on ascites the matters in connexion with inflammation are discussed. This subject is treated under the heads of Bacterial, Chemical, and Mechanical Peritonitis. The symptoms are detailed in three groups: (1) those immediately resulting from the inflammation; (2) those due to functional or anatomical changes in organs directly involved in the process; and (3) general symptoms. In the treatment of this affection the English editor adds a note concerning the use of magnesium sulphate (introduced by Lawson Tait) and the employment of calomel (recommended by Barnard). A very complete description of appendicitis is given.

In concluding our review of this great work we must congratulate the author on having obtained the services of Dr. H. D. Rolleston as its English editor. Throughout the whole of it the original text has been enriched by his interpolated remarks—remarks which bring the subject thoroughly up to date.

Husband's Forensic Medicine, Toxicology, and Public Health. Seventh edition, revised and enlarged by R. J. M. BUCHANAN, M.D., B.Ch. Vict., M.R.C.P. Lond., M.R.C.S. Eng., Assistant Lecturer in Forensic Medicine and Toxicology in the University of Liverpool; Assistant Honorary Physician to the Liverpool Royal Infirmary; and E. W. HOPE, M.D., D.Sc. Edin., Professor of Public Health, University of Liverpool; Medical Officer of Health of the City and Port of Liverpool. Edinburgh: E. and J. Livingstone. 1904. Pp. 724. Price 10*s.* 6*d.*

IN reviewing the seventh edition of this well-known textbook no words are necessary from us as to its general nature and scope. The task of revising the work has been intrusted to Dr. R. J. M. Buchanan and Dr. E. W. Hope and these gentlemen may be congratulated on the manner in which they have performed their duties. A general alteration has been made in dividing the book into sections and chapters and we consider this an improvement on the former plan of headings only.

The articles on Legal Criminal Procedure and on Medical Evidence have been considerably amplified and the methods adopted in England and Ireland on the one hand and in Scotland on the other are duly detailed and explained. The pages devoted to these subjects will well repay study, as the young practitioner may easily be confused in the witness-box unless he is familiar with the procedures of the various courts. We notice also that the remarks on Modes of Dying have been rendered more complete than in the last edition. Bichat's classification of death beginning at the heart, lungs, or brain respectively, though not strictly accurate, is still adopted as being the most convenient for purposes of discussion. The observations on sudden death might well be extended. Certainly sufficient stress is not laid on some forms of sudden or unexpected death, such as those due to disease of the kidney and to diabetes.

The section dealing with Signs of Death is very full and complete. It is not often that a practitioner has any difficulty in proving that death has taken place but such occasions do happen and reference to this work will supply many hints as to the variations which may occur in those signs which are usually accepted as indicative that life is extinct. The differential diagnosis between cutaneous hypostasis and results of external violence is also well given.

The section on Burns and Scalds has been practically rewritten as has also the one on Starvation. The latter subject not unfrequently comes under the notice of the

medical practitioner and Dr. Buchanan has acted wisely in considering the subject in detail. Accusations of withholding proper or sufficient food from a child or adult are sometimes difficult to prove and in fatal cases it behoves the medical man who conducts the necropsy minutely to examine every organ of the body. Cases that have been brought before the courts in previous years afford several instances in which neglect of this precaution has led the medical witnesses into considerable difficulties.

The chapter on Blood Stains has been greatly altered and instead of five pages 23 are now devoted to this subject. In discussing the differences which exist between human blood and that of other animals the appearance of blood crystals is referred to. Professor Preyer of Jena has pointed out that the hæmoglobin crystals from the blood of some animals differ in shape from those of man and advantage has been taken of this fact in trying to trace the identity of blood to the animal from which it has been derived; the results, however, have not been of sufficient value to establish this method as trustworthy for medico-legal purposes. The biological tests for blood are also criticised and in common with other authors of medico-legal works Dr. Buchanan expresses doubts as to whether the "anti-serum" test will ever become a sufficiently trustworthy one for medico-legal purposes. In the hands of a few observers, however, it has given promise of utility.

In the section on Toxicology the classification adopted in the previous edition has been adhered to. Articles on putrefactive alkaloids, leucomaines, and food poisoning have been added. In the part of the volume concerned with public health numerous alterations have been made. Many of the chapters have been rewritten so as to bring them into line with the considerable advances that have been made in this subject during recent years.

In this edition the plan has been adopted of introducing numerous illustrations; these have been admirably executed and add greatly to the practical value of the book. We can confidently recommend the work to students preparing for their examinations.

A Manual of Clinical Diagnosis by Means of Microscopical and Chemical Methods. By C. E. SIMON, of Baltimore. Fifth edition. With 150 Engravings and 22 Plates in Colours. London: Henry Kimpton. 1904. Pp. 695. Price 21*s*.

THIS is the fifth edition of the above work which appeared first in 1896, a fact which speaks for its usefulness and may be taken as an index of its success in meeting the requirements of "students, hospital physicians, and practitioners." Besides embodying new matter in most of the chapters this edition differs from the last of two years ago, specially in regard to the chapter on Blood, which has been almost rewritten; to this chapter also have been added six new coloured plates. The various technical methods have been largely extended and brought up to date. To this end a section has been added dealing with Aniline Dyes as Stains on the lines of the published works of Pappenheim, G. Mann, and Michaelis. There are short chapters on Cryoscopy of the Blood and Urine. Material changes have been introduced in the chapters dealing with sputum, urine, fæces, and the like. Nearly 200 pages, or less than one-third of the whole work, is devoted to Blood and about one third to Urine. Of the remainder, about 60 pages are devoted to Gastric Juice.

The whole is so admirably done and the work is so useful that it seems almost superfluous to call attention to some few minor points; this we do because we think that by attention to them the work would be improved. Dealing with the chapters in the order of their occurrence it would be well to state that the analysis of the gases of the blood refers to the blood of the dog and not to that of man. As to the sugar in blood (p. 44), why not state the kind or kinds of sugar present? We have the statement regarding the existence of "cellulose in the blood of tuberculous patients" (p. 47). It is difficult to attach much meaning to this. Is it a pretty generally accepted view that the blood platelets are derived from the red cells by extrusion, are originally nucleoids, and represent the remains of the original nucleus, and also that their presence can be demonstrated within the red cells? We have some doubts on this point. The observations of Deetjen (referred to by the author) show that these platelets possess a nucleus, exhibit amœboid movements, and divide—observations confirmed by Dekhuyzen of Utrecht and others. The details for numeration of the cells of the blood are admirable and precise, while the clinical method of Dare for the estimation of hæmoglobin is introduced.

There can be no doubt that Mett's method for determining the proteolytic power of gastric juice (p. 239) or the amylolytic power of saliva is one deserving of greater use clinically. Instead of referring to the German translation by Walther of Pawlow's results on the Work of the Digestive Glands it would have been more convenient for English readers if Professor W. H. Thompson's admirable translation of this work (1902) had been mentioned. It would also have been well had the rule which expresses the relation of the pepsin and the length of the column of egg-white digested been given—viz., "the quantity of pepsin in the compared fluids is proportionate to the square of the rapidity of digestion."

Everyone will agree that Uffelmann's test for lactic acid (p. 248) is not satisfactory in all cases. The author brings forward (p. 269) his own observations on the relationship between the amount of hydrochloric acid in the stomach and the elimination of indican in the urine. The reaction of normal fæces is correctly given as alkaline, a fact strongly insisted on by Gamgee in vol. ii. of his Physiological Chemistry. In connexion with the fæces under different diets it might have been well to explain to the uninitiated Englishman what is meant by a "Zwieback" (p. 294).

On the subject of the Sputum there are some excellent plates. In Plate 17 "heart disease cells" are described as "loaded down with granules of hæmatin" and on p. 350 these granules are described as hæmatoidin. It is just as well to be accurate both as regards expression and fact.

Very full consideration is given to the chlorides of the urine and, of course, to the endless forms of apparatus for the estimation of urea. It has been said "the greater the number of remedies recommended for a disease the less is the real efficacy of any one of them." We cannot help thinking that a large number of the so-called clinical methods might be omitted with advantage and only those which give accurate results introduced. There are far too many "modifications" of this, that, and the other method or piece of apparatus. Although the literature dealing with xanthin or purin bases in various diseases is enormous, still, individually, "the xanthin bases in the urine are of little clinical interest."

There is one general remark which may be not inappropriate for the next edition—viz., it would be helpful in all cases to give the magnifying power used for microscopic examination. In some cases it is given but in most omitted—e.g., some of the excellent coloured blood-plates and the figures of urinary crystals or deposits. It would also be well in citing the literature to give not only the reference to the volume—e.g., *Comptes Rendus*, &c., *Centralblatt*, &c.—but also to add the year when the volume appeared, so that the reader may know when the method referred to was introduced or the statement was first made.

The work is excellently printed and well illustrated, especially so as regards the coloured plates. Some of the woodcuts are a little hard and bold in outline. Take it all in all it is a work that will be found useful in every hospital and physiological or pathological laboratory, as well as by those practitioners who can find time to peruse it and to adopt some of the newer methods therein described.

A Manual of General Pathology for Students. By SIDNEY H. C. MARTIN, M.D., F.R.C.P. Lond., F.R.S., Professor of Pathology at University College; Physician to University College Hospital, London. With numerous woodcuts from microphotographs and a coloured plate. London: John Murray. 1904. Pp. 502. Price 15*s.* net.

IT is not too much to say that a more marked change has come over the study of pathology during the last 20 years than during the preceding century. At first observers were content to note the gross changes of disease seen in the dead-house, and later the changes revealed by the microscope. To-day a complete manual of pathology for students deals not only with these but with the physiological and chemical processes on which these changes depend. The subject of pathology has therefore become so large that for convenience of study it may be divided into two broad groups—morbid histology and general pathology. The text-book before us deals only with the latter of these and as the preface states "it must be preceded by practical work in morbid histology and anatomy and to some extent in bacteriology."

Chapter I. deals with the Phenomena and Results of Inflammation very lucidly and concisely. In small compass the student obtains all that is necessary. The same remarks apply to Chapter IX. on Œdema and to Chapters X. to XIV. on the Blood. We are glad to see that the complicated nomenclature and descriptions of the blood corpuscles usually met with have in this book been reduced to simpler elements which are methodically arranged and up to date and contain the maximum of information in the minimum of space for the needs of the student. We mention in passing, however, that splenic anæmia occurring in adults and in children receives somewhat inadequate notice. The chapter on the Nervous System calls for praise so far as it goes but pathological processes in the brain are rather scantily dealt with; the pathological processes in the spinal cord, on the contrary, are described very thoroughly and systematically. Dr. Martin so rarely indulges in theoretical discussion that when he does so to explain the cause of the rigidity of spastic paraplegia we regret that his meaning is not clear.

The chapters on Arterial Disease and on the Ductless Glands are necessarily incomplete on account of the present limitation of scientific knowledge and Dr. Martin has not been tempted into the discussion of inviting theories. There is a useful chapter on Changes of Metabolism, containing much information concisely put together which is not often found in a student's text-book. Glycosuria of pancreatic origin has been recently proved to be due to disease affecting the islets of Langerhans, which are collections of epithelium-like cells unconnected with the ducts of the pancreatic glands. These islets are supposed to manufacture an internal secretion which influences carbohydrate metabolism. So rapidly does pathological discovery advance to-day that the above is mentioned in Dr. Martin's work as "at present only an hypothesis."

Gout is a subject which is so perennially before us that we regret that so little space has been devoted to it and to uric acid. On p. 441 Dr. Martin frankly adopts the older views on the pathogeny of gout in its relation to alcohol and nitrogenous food. In these days, when lay newspapers and magazines publish not only articles but discussions on "uric acid" wherein various people recount their experiences with this and that dietary, it behoves every medical man to acquire the most scientific knowledge on the subject that he may be able to answer the intelligent person whose knowledge, however imperfectly acquired and dangerous, should not be pooh-poohed by the physician who desires to retain the confidence of his patient.

A large part of the work (pp. 50 to 192) is devoted to infection and immunity. It is of the highest importance that these subjects should be thoroughly comprehended by the student, because the advance in therapeutics which is taking place in that department promises to create as great a revolution in medical treatment as antiseptics have done in surgery. Dr. Martin is evidently well acquainted with the most recent researches on infection and immunity; our only complaint is that for a student's manual he gives too much detailed description of experimental research bearing on these subjects. The student is in danger of losing the broad principles in the mass of facts presented by this work. We looked in vain for a concise description of Ehrlich's theory of immunity, such as may be found in most of the modern text-books of pathology. One of the essentials in a text-book for students is equality of treatment in all departments and with the just mentioned exception Dr. Martin has fairly succeeded in this aim. We would suggest that in future editions Dr. Martin might either omit or relegate to small print much of the experimental detail of these chapters and that he might add a brief summary of the broad principles underlying them. His ability to make concise and lucid summaries is shown in the chapters on Changes of Metabolism and on Blood.

This work is of such high excellence and the difficult task of giving a complete survey of such a rapidly growing subject as general pathology has been so well accomplished that in spite of the criticism that we have offered we can heartily recommend the book to students of pathology. In general terms it maintains the high standard of the school from which it emanates.

Physiologie des Menschen. By Dr. L. LUCIANI. Translated into German by Dr. S. BAGLIONI and Dr. H. WINTERSTEIN. With an Introduction by Professor M. VERWORN. Erste Lieferung. Jena: G. Fischer. 1904. Pp. vii.–160. Price 4*s.*

THERE is a great deal to be said for reciprocity. Leipsic in the "seventies" and "eighties" through the fame of Ludwig attracted many young Italians to pursue their physiological studies under one of the masters of his day. Amongst these was Luigi Luciani, the author of the present work, now professor in Rome and formerly in Florence. Italy is thus returning to Germany a measure of gratitude on the one hand and an excellent text-book on the other. The present edition is translated from the second Italian edition. While it is a work that will be used by students it is also one that will be specially useful to practitioners of medicine.

This "Lieferung" forms one-twelfth of the entire work and deals with general physiology. About one-third of it is taken up with the subject of the properties of the blood and another third with the history of the discovery of the circulation of the blood and with the mechanics of the heart. There are in all 65 illustrations. To each chapter is appended a short account of the literature with which it deals. Amongst other chapters which are well worth reading is that on Blood Plasma. The newer researches of the pathologists and physicists—theories of solutions, ions, freezing points, cryoscopy, immunity, and so on—are given fully and their relation to practical medicine is set forth. The old story of Colombo and the discovery of the lesser circulation of the blood from the point of view of Ceradini is given pretty fully, and so also is Ceradini's acount (1676) of the claims of Andrea Cesalpino as the first person who surmised the general course of the circulation of the blood. In paragraph 5, p. 123, will be found the Italian view of

Harvey's relation to the discovery of the circulation of the blood.

The work is very readable, thoroughly well illustrated, and bears the stamp of much patient research and individual thought, as was to be expected from one whose name has become a household word in physiology and whose researches on the beat of the heart—Luciani's "groups"—and cardiac physiology generally, on the cerebellum, and on hunger are known to all physiologists.

LIBRARY TABLE.

The Countess of Dufferin's Fund: Nineteenth Annual Report of the National Association for Supplying Female Medical Aid to the Women of India. For the Year 1903. Calcutta: Office of the Superintendent of Government Printing. 1904. Pp. 221. Price 1*s.* 4*d.*—In presenting its nineteenth annual report the central committee is glad to be able to state that steady and encouraging progress has been made during the year. The number of patients treated in the numerous hospitals and dispensaries connected with the fund is again large and satisfactory despite the prevalence of plague. A considerable number of women continue to enter the various colleges and schools engaged in training medical students of all grades and the financial status of the association as a whole is satisfactory. The committee has noted with interest that the French Government during the past year has instituted a similar scheme to that of the Dufferin Fund in Algeria. The report contains complete statistics and details of the operations of the fund during the past year and it also includes the full accounts sent to it of the work accomplished in the United Kingdom, Baluchistan, and the Native States. It does not, however, include any details of the large number of hospitals and dispensaries administered by lady doctors belonging to the various missionary societies throughout India or of women relieved by a number of medical practitioners who have completed their medical education with the aid of the Dufferin Fund and have since gone into private practice. In Appendix VI. will be found the details of the *personnel* employed in the various hospitals for women throughout India. There are now 41 lady doctors of the first grade—i.e., persons qualified for registration in the United Kingdom—78 assistant surgeons, or practitioners of the second grade, who have been trained in India and hold Indian qualifications, and 256 hospital assistants, or practitioners of the third grade which includes all qualifications not considered up to the standard required for assistant surgeons. Appendix IX. gives a list of the students at present in the principal medical colleges and schools in India. It shows that there are 114 European and native ladies training as assistant surgeons, 95 as hospital assistants, and 281 as nurses, dais, and compounders. This list does not include 194 dais who are being trained under the Victoria Memorial Scholarships Fund. The central committee is of opinion that its main duty now lies not so much in the direction of erecting new hospitals as in promoting the wider education of hospital assistants, nurses, and midwives who may be enabled to carry relief into the outlying districts and villages. In Appendix XI. are given the full details concerning the women and children treated in zenana hospitals, wards, and dispensaries by female agency throughout the country and the statistics show that 1,792,000 patients have received relief. This number is an immaterial decrease of a few hundreds only on the figures of the previous year. In dealing with the funds of the Victoria Memorial Scholarships Fund Lady Curzon has decided that the proceeds of her appeal shall be devoted to an endeavour to impart a certain amount of practical knowledge to the indigenous midwives. The general idea is to get hold of as many as possible of the indigenous hereditary midwives and to induce them to attend at Dufferin hospitals or at the female divisions of ordinary hospitals or dispensaries for the purpose of acquiring such empirical knowledge as it is possible to impart to them. The teaching will at first be oral and will be conveyed in the colloquial language familiar to the pupils. But it is proposed in course of time to prepare very short and simple primers of midwifery practice in the various vernaculars for the use of dais. When looking down the lists of patrons and patronesses the reader will wonder which official of the association is responsible for the lists. They are drawn up both in a careless manner and in one which shows a want of knowledge of ordinary social customs.

Swimming. By RALPH THOMAS. London: Sampson Low, Marston, and Co. 1904. Pp. 488. Price 10*s.* 6*d.* net.—This book not only shows what has been written about swimming and resuscitation up to the present time but also traces the progress made in the theory and practice. Everything that swimmers or non-swimmers, old or young, may wish to know about the subject is dealt with. Swimming generally and also the various strokes are treated historically, the period comprised being from Assyrian times to the present. The book shows how the art of swimming stood still for hundreds of years, the stroke of the Anglo-Saxon Beowulf being almost the same as that of Digby, whose work in 1587 was the first English book on swimming. About the year 1500 a gradual but very slow improvement in stroke commenced, and from this the development of our breast-stroke is traced, the simple and natural human stroke of the Anglo-Saxon being changed step by step to the present complicated and unnatural ones. Short notes are given on the following among many other subjects: The Ancients as Swimmers, Bernardi Method, the Breast-stroke, Benjamin Franklin, Buoyancy, Costume, Diving, the English Side-stroke, Floating, How Different Nations Swim, Man and Swimming, Navy and Army, Speed, and Women and Swimming; these subjects are explained by 120 excellent illustrations. In order to show the result of the author's investigations summaries of the literature are given, so that the reader can find the pith of the literary part of the book in these short accounts. In dealing with resuscitation, the origin, history, and work of the various societies are shown, a short account being thus afforded of the humane efforts made by the Royal Humane Society, the Royal National Lifeboat Institution, and the Life-Saving Society in the art of resuscitation from 1774 to the present day. Those methods of resuscitation which the author considers best according to our present knowledge are illustrated. Dr. R. L. Bowles's modification of Dr. Marshall Hall's method of restoring the apparently drowned is the one which is brought most prominently forward. Scholars and swimmers of all countries have freely assisted the author. There are an elaborate bibliography, a table of contents, and a full index which bring all the numerous matters dealt with under notice at a glance. The work is truly an encyclopædia. No better present could, in our opinion, be given to the young.

Cycle and Camp. By T. H. HOLDING. London: L. De Vere and Co. 1904. Pp. 232. Price 1*s.*—This is a reissue in which there is embodied a compendium bringing every detail of camping with the cycle down to the latest period. The lovers of cycling and of fresh air are shown in this book how they can dispense with the cost of hotels. In an appendix, which can be purchased separately, plans are given for making tents and many hints are given about them and concerning camping appliances. A complete inventory of essentials is a feature of the appendix. The directions for packing and fixing tents are excellent. The tents recommended weigh only two pounds and are such as will stand ordinary rain and wind, leaving the occupant dry, and the book records

what has been done and what may be done with comfort and health by their aid. The author has averaged a month a year camping in portable camps, travelling 4000 miles throughout the United Kingdom, and his book is put together in a thoroughly practical manner. The story of the tour throughout Connemara is written in a light and pleasing vein. The book is to be commended.

An Index of Symptoms. By R. W. LEFTWICH, M.D. Aberd. Third edition. London: Smith, Elder, and Co. 1904. Pp. 377. Price 6*s.* net.—We reviewed the second edition of this excellent little book in our issue of April 6th, 1901, and we can add but little to what we said then. The present edition is larger by some 100 pages than its predecessor, some 50 new symptoms have been added, and an excellent regional chart of the chest, drawn out upon a new plan, is, we fancy, another new feature. We mentioned in our review of the second edition that Dr. Leftwich had omitted to mention paroxysmal hæmoglobinuria as one of the diseases which commences with a rigor and we notice the same omission in the edition now before us—an omission which we think should be rectified in a future edition. The table of synonyms will be found very useful but we should like to see the use of eponymic titles of diseases minimised. It is true that in some cases they are useful—e.g., "Winkel's disease" is a much less cumbrous title than "cyanosis infantilis icterica perniciosa, cum hæmoglobinuriâ" and the shortened form "infantile hæmoglobinuria" is scarcely full enough, but on the whole we should be glad, as we have said, to see their use minimised. We can only repeat our favourable opinion of Dr. Leftwich's work.

The Edinburgh Stereoscopic Atlas of Anatomy. Edited by DAVID WATERSTON, M.A., M.D., F.R.C.S., F.R.S. Edin., Lecturer and Senior Demonstrator in the Department of Anatomy, University of Edinburgh. Edinburgh and London: T. C. and E. C. Jack. Price, complete with stereoscope, £6 5*s.* net.—The impending issue of the "Edinburgh Stereoscopic Atlas of Anatomy" marks a new departure in attempts at systematic anatomical illustration. By means of stereoscopic photographs of formalin and other preparations Dr. Waterston, of the Anatomical Department of the University of Edinburgh, promises to illustrate the anatomy of the various organs and regions of the body. The fact that Professor Cunningham has allowed his name to be identified with the venture affords further evidence, if any were needed, of the scientific accuracy of the work. The advance specimens which we have had the opportunity of inspecting appear admirable in their way. Of course they cannot possibly replace experience gained by actual dissection and their price is prohibitive for the ordinary student. Where they will be of value is to the practising physician and surgeon and advanced medical student who cannot always readily gain access to dissecting rooms. The publishers promise the first section of stereographs in the autumn to be followed by the other sections at short intervals. The complete set comprises 250 pictures.

JOURNALS AND MAGAZINES.

The Practitioner.—The July issue of this journal is devoted to the consideration of syphilis. The subject is approached from several sides, the various special methods of treatment and special places such as Aix-la-Chapelle taking a prominent place. Perhaps the most interesting article, however, is that contributed by Dr. F. W. Mott who deals with syphilitic disease of the brain. Dr. Mott introduces some striking photographs taken from asylum patients and illustrating various paralytic affections of the face in the subjects of syphilitic brain disease. He regards syphilis as "by far the most important cause of organic brain disease in adults." Mr. Frank Cole Madden, writing of syphilis in Egypt, gives a picture of the disease as it may be met among the natives that is almost revolting in its descriptive accuracy. Dr. George F. Still contributes some valuable remarks upon syphilis in children. He finds "snuffles" in 70 per cent. of the cases, also many cases in which "snuffles" is no sign of syphilis.

Analytical Records
FROM
THE LANCET LABORATORY.

(1) "TABLOIDS" CALOMEL AND SODIUM BICARBONATE AND GREY POWDER AND SODIUM BICARBONATE; (2) "TABLOIDS" CALCIUM GLYCEROPHOSPHATE, IRON GLYCEROPHOSPHATE, AND SODIUM GLYCEROPHOSPHATE; AND (3) "TABLOID" THREE VALERIANATES.

(MESSRS. BURROUGHS, WELLCOME, AND CO., SNOW HILL-BUILDINGS, LONDON, E.C.)

(1) SODIUM bicarbonate is usually associated with calomel and grey powder in the form of a loose powder which possesses obvious disadvantages as regards administration. Moreover, in the tabloid only the purest drugs are employed. In the calomel and sodium bicarbonate tabloid the mercurous chloride used is the pure sublimed salt. The calomel tabloid contains either half a grain or one grain of calomel, according to the dose required, associated with five times that amount of sodium bicarbonate. (2) The glycerophosphates are known to present phosphorus in a readily assimilable form and have been prescribed with favourable results in nervous disorders. The calcium, iron, and sodium salts may be had in tabloid form and the practitioner may choose each separately or any combination of them. (3) The tabloid of the three valerianates contains a grain each of the quinine iron or zinc salt, the combination being held in favour as an efficient tonic.

OLD LIQUEUR VINTAGE BRANDY.

(MACMINN, RICHARDSON, AND CO., 11, HART-STREET, MARK-LANE, LONDON, E.C.)

On analysis this brandy gave the following results: alcohol, by weight 42·29 per cent., by volume 49·81 per cent., equal to proof spirit 87·29 per cent; and extractives, 1·160 per cent. Except for the furfural the secondary products were normal in amount and the ethers were estimated to be 109 grammes per 100 litres of absolute alcohol present. This proportion is consistent with the statement that this brandy is a pot-still grape spirit. The indications of analysis, however, are not in favour of the spirit being very old.

SCOTCH WHISKY, O.V.L. BRAND.

(HENRY SIMPSON AND CO., 6, CROSBY-SQUARE, LONDON, E.C.)

On analysis this spirit gave the following results: alcohol, by weight 40·80 per cent., by volume 48·21 per cent., equal to proof spirit 84·49 per cent.; extractives 0·10 per cent.; and fixed acidity reckoned as tartaric acid 0·019 per cent. The secondary products given in grammes per 100 litres of absolute alcohol present were as follows: volatile acidity reckoned as acetic acid, 46·80; aldehyde, 16·66; furfural, 2·00; ethers reckoned as ethyl acetate 79·20; and higher alcohols 220·00. Except that the furfural is somewhat lower than is usually found in pot-still whisky these results are in accordance with those obtained in the analysis of a genuine old matured Scotch whisky. The whisky has that soft flavour characteristic of a malt spirit mellowed by age.

GORDON'S SPECIAL LONDON DRY GIN.

(TANQUERAY, GORDON, AND CO., LIMITED, 132, GOSWELL-ROAD, LONDON, E.C.)

According to our analysis this is a very pure spirit and

the term "dry," meaning the practical absence of all extractive and saccharine matters, accurately describes it. Our analysis was as follows: alcohol, by weight 38·61 per cent., by volume 45·83 per cent., equal to proof spirit, 80·32 per cent.; extractives, a trace; mineral matter, *nil*; and acidity, *nil*. In regard to secondary products the following were the results given in grammes per 100 litres of absolute alcohol present in the gin, acidity reckoned as acetic acid, *nil*; aldehydes, *nil*; furfural, *nil*; ethers, *nil*; and higher alcohols, 80·00. It is obvious from these results that this gin is a highly rectified spirit, containing, if we exclude the small proportion of higher alcohols, practically no secondary products. The spirit possesses the peculiar delicate flavour of genuine gin.

(1) PALE ALE; AND (2) INDIA PALE ALE.

(FULLER, SMITH, AND TURNER, GRIFFIN BREWERY, CHISWICK.)

The care bestowed upon, and the particular method adopted in, the manufacture of these ales are entitled to praise. According to a personal inspection which our Commissioner recently made of the brewery where these ales are produced every endeavour is made to protect the beer at every stage from all sources of contamination and from the invasion of adventitious ferments. Beer is liable to many diseases and the brewery should be as clean as the dairy. In addition to the cleanliness under which the processes are conducted precaution is also taken to secure a pure variety of yeast, so that a constant and sound product may be obtained. Finally, the beer, reduced to a very cold temperature, is filtered from bacteria and yeast. The beer is thus bottled perfectly bright and with its own gas of fermentation. As the beer approaches normal temperature in the bottle part of this gas is set free and a slight pressure developed. By this means a beer is obtained which is not objectionably overcharged with carbonic acid gas. The advantages of this process are obvious. The method is scientific and cleanly and a wholesome, sound beer is produced. A not less important advantage is that the filtering process amounts, in fact, to a process of sterilisation and thus the beer keeps sound indefinitely. It stands export very satisfactorily owing to this excellent method of manufacture. Furthermore, the removal of active ferments improves beer in an important dietetic regard. There is no doubt that certain beers are indigestible and disagree with many individuals on account of fermentation being set up in the alimentary tract. We have submitted to analysis samples of light pale ale and India pale ale, the latter being a "fuller" beer than the former. The pale ale is an excellent light bitter ale, lighter, in fact, than many kinds of lager beer. The India pale ale gave the following results on analysis: alcohol, by weight 5·87 per cent., by volume 7·32 per cent., equal to proof spirit 12·84 per cent.; extractives, 3·92 per cent.; mineral matter, 0·27 per cent.; and volatile acidity reckoned as acetic acid, 0·03 per cent. The ale was perfectly bright and free from deposit. It is usual to brew beer for export purposes of a stronger character than that used at home. The increased alcoholic strength, in fact, is relied upon to keep the beer sound. Beer for export purposes, however, need not be heavy so long as care is taken to exclude organisms from the final product. As a matter of fact, this India pale ale travels well in hot countries and therefore supplies the wholesome demand for a pale ale of lighter character than the beers usually exported. There is no doubt that the use of chemical preservatives could be entirely dispensed with by taking care to exclude active biological entities. The pale ale gave the following results on analysis: extractives, 3·31 per cent.; mineral matter, 0·22 per cent.; alcohol, by weight 3·88 per cent., by volume 4·85 per cent., equal to proof spirit 8·51 per cent.; and volatile acidity reckoned as acetic acid, 0·01 per cent. This ale is practically free from volatile acidity which is evidence of its soundness in spite of its relatively low alcoholic strength. As has been pointed out, it is lighter than many kinds of lager beer, while it preserves the flavour of English brewed ale.

MONDORF MINERAL SPRING WATER.

(AGENCY: MESSRS. MOSS AND CO., 15, BLYTHE-ROAD, WEST KENSINGTON, LONDON, W.)

This mineral water is drawn from a spring at Mondorf-les-Bains in the Grand Duchy of Luxemburg. Its chief mineral constituent is sodium chloride associated with a distinct amount of bromide of magnesium. The main indications for its administration in daily doses of from one to four glasses are dyspepsia, constipation, and gout. Recently it has been found that the water is strongly radio-active. Our analysis gave the following results: common salt, including bromide of magnesium, 12·987 grammes per litre; calcium sulphate, 1·650 grammes per litre; and magnesium and calcium carbonate, 1·580 grammes per litre.

EAU MINERALE NATURELLE DU SALET.

(AGENTS: E. GALLAIS AND CO., LIMITED, 90, PICCADILLY, LONDON, W.)

The principal constituent of this natural carbonated water is bicarbonate of soda which occurs in a somewhat remarkable proportion. The water is derived from a source near the celebrated Vichy springs. It is indicated in gastric and intestinal catarrh, gout, dyspepsia, and urinary disorders. It possesses an agreeable soft taste in which, however, the inky taste of a slightly ferruginous water is easily recognised. As may be expected, from the alkaline bicarbonate present, the water has a pleasing and cleansing effect upon the palate. We had no difficulty in finding traces of lithium salts. Analysis gave the following results of the residue obtained on evaporation of one litre of the water: carbonate of soda, 2·176 grammes; calcium salts, 0·976 gramme; sodium chloride, 0·087 gramme; and iron (present as bicarbonate), 0·013 gramme.

PROLACTO BISCUITS.

(CALLARD AND CO., 74, REGENT-STREET, LONDON, W.)

It is satisfactory to be able to confirm the important statement made in regard to these biscuits to the effect that they are starchless and consist of over one-half their weight of proteid. Our analysis gave the following results: moisture, 4·74 per cent.; mineral matter, 4·56 per cent.; proteid, 63·00 per cent.; and fat, 27·70 per cent. The biscuits are as palatable as can be expected considering their composition. They are suitable for use in a diet in which the presence of carbohydrates is undesirable.

CHELTINE INFANT FOODS.

(CHELTINE FOOD, LIMITED, CHELTINE WORKS, CHELTENHAM.)

We have received from this company a series of foods, three in all, which comprise a progressive dietary for infants from the time of birth. The composition of each food is, we find, in accordance with the special physiological requirements of the infant at the respective stages. The first food, for example, contains over 10·00 per cent. of fat, the second food about the same amount, while No. 3 contains only 3 per cent. Again, the foods Nos. 1 and 2 prove to contain nearly 90 per cent. of soluble matter. They are, in fact, modified forms of cow's milk in which active diastase has exerted its solvent digestive action. The food No. 3 is a malted farinaceous food about 30 per cent. of which is soluble in water. Lastly, the foods contain an excellent proportion of the important mineral salts, including phosphates.

NURSERY MILK.

(J. CLARKE AND SONS, DAIRY FARMERS, 46, HILL RISE, RICHMOND.)

According to our analysis this is milk of exceptionally good quality. It, in fact, shows the rich composition of the

milk yielded by the Jersey breed of cows. Our analysis gave the following results: fat, 10·00 per cent.; sugar, 4·67 per cent.; casein, 3·96 per cent.; and mineral matter, 0·69 per cent. This composition is equal to the maximum quality ever obtained. It is stated that the cows producing this milk have passed the tuberculin test.

TOILET SOAPS.

(PRICE'S PATENT CANDLE COMPANY, LIMITED, BELMONT WORKS, BATTERSEA, LONDON, S.W.)

We have examined three specimens of soap called respectively Oatmeal, Parma Violets, and Cold Cream soap, which, we understand, are supplied exclusively through pharmaceutical chemists. In all some 25 varieties of these soaps are made. They bear evidence of being prepared from materials of high quality which, moreover, are well balanced. They are therefore harmless to sensitive skins and free from irritating substances.

New Inventions.

AUTOMATIC SPRING RETRACTOR FOR MASTOID OPERATIONS.

THE instrument here illustrated has proved of much value in mastoid operations. As will be seen, it is an automatic spring retractor consisting of two arms of well-tempered steel to one of which is fitted a retractor in shape somewhat like an aural speculum cut in half, the outer side being grooved horizontally to prevent slipping. This blade fits into the meatus and pushes the pinna forwards out of the way of the

operator. The other arm of the spring terminates in a plate slightly convex on its external aspect and having teeth set on at right angles to the plate. This pushes back the opposite side of the wound. The retractor is made in two sizes with varying strength in the spring for operations on children and adults. This retractor is self-retaining and will be found a great convenience by those who object to having the assistant's hands in the neighbourhood of the wound. Messrs. Mayer and Meltzer of Great Portland-street, London, W., have constructed the instrument for me.

A. ROBERTS, F.R.C.S. Edin.,
Aural Surgeon to the Royal Berkshire Hospital.

A NEW FORM OF APPARATUS FOR ADMINISTERING ETHYL CHLORIDE ALONE OR IN COMBINATION WITH ETHER.

THE apparatus is a modification of Clover's ether inhaler and the part modified is shown in Fig. 1. It will be seen that the horizontal limb of the angle-piece has an opening above leading into a very shallow cup from the bottom of which a narrow tube runs. This opening is guarded by a revolving metal band worked by a thumb-piece. The narrow tube is longer than the angle-piece and extends into the neck of the bag with a slight inclination downwards. The cup and tube take up an almost negligible portion of the angle-piece.

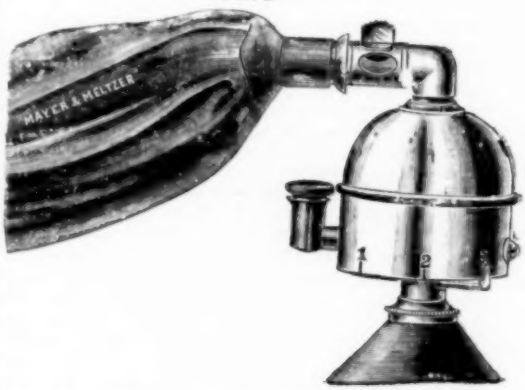
When used for ethyl chloride alone the several parts shown in Fig. 1 are connected up. The patient is allowed to inflate the bag and then the ethyl chloride, which has been measured out in a minim glass, is poured into the cup from which it immediately runs into the bag. The metal band is turned so as to close the opening and the patient is allowed to breathe into the bag. Further quantities of the anæsthetic can be added from time to time, either directly from the ethyl chloride tube or from a minim glass, without removing the face-piece or disturbing the apparatus in the least. It is perfectly easy to obtain an anæsthesia lasting from ten minutes to a quarter of an hour in this manner.

The bag can be washed out and used immediately after-

FIG. 1.

wards, while still wet, for another patient. This is of great importance when a series of operations, such as tonsils and adenoids or circumcisions, is being performed in an out-patient department of a hospital. When used in combination with ether the apparatus is arranged as in Fig. 2. The ether chamber is filled and the indicator is set to zero. The administration of the ethyl chloride is proceeded with

FIG. 2.



exactly as described above and the ether is very gradually turned on when the patient's breathing shows that he is under the influence of the former drug. In this manner it is usual, I might say almost invariable in children, to obtain complete anæsthesia in half a minute without any trace of cyanosis or struggling. Ether can be given in this way to children of two years with great success.

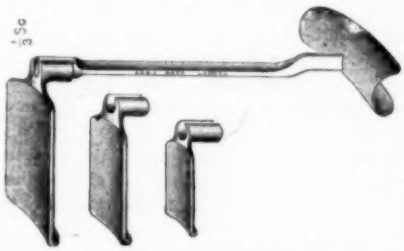
The apparatus was made for me by Messrs. Mayer and Meltzer of 71, Great Portland-street, London, W.

T. LISTER LLEWELLYN, M.D., B.S. Lond.,
Resident Medical Officer, East London Hospital for Children.

A SET OF PORTABLE RETRACTORS.

Messrs. Down Bros., of St. Thomas's-street, S.E., have made, at my suggestion, a set of retractors which will, I think, be found useful in dealing with deep incisions or in abdominal work. The object of the set is to obviate the necessity of having several different sizes of retractors of the ordinary handled patterns and by having retractor blades of various sizes made to fit a common handle to economise space and weight. The set, as made for me, consists of three retractor blades which fit on to one handle, on the same lines as Bozemann's vaginal specula. The blades are slightly

curved transversely and measure 2¾, 1¾, and 1¼ inches deep by 2 inches, 1½ inches, and 1 inch wide respectively. At the lower and posterior edge of each is a blunt ridge to give a better hold on the tissues. The handle is T-shaped, the stem (with the exception of the male part of the joint) is merely a flat smooth bar 5½ inches long, while the cross-piece, 2¾ inches in length, is a hemi-cylinder 1 inch in diameter, forming a surface which provides a good grip and



which in actual use has proved most comfortable to hold. The joint by which the retractor blades engage with the handle is similar to that now made for some sets of Bozemann's specula and will be best understood by reference to the illustration. Both male and female halves of the joint are slightly coned, giving a joint as firm as if the blade and handle were forged in one piece, but disengaging and changing the blades are matters of a few seconds only, while there are no catches or corners to harbour dirt. I am much indebted to Messrs. Down Bros. for the care and trouble which they have taken in carrying out my suggestions.

Exeter. BRENNAN DYBALL, M.B. Lond., F.R.C.S. Eng.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION OF PRESIDENT.

A QUARTERLY meeting of the Council was held on June 14th, Mr. JOHN TWEEDY, the President, being in the chair.

The PRESIDENT reported the result of the election of three members of the Council, as already announced in THE LANCET, and Mr. H. G. Barling, Mr. A. A. Bowlby, and Mr. F. S. Eve were introduced, made declarations in the terms of the oath prescribed by the Charter of 1800, and took their seats as members of the Council. The President also reported that after the election the Fellows' subscription dinner was held in the library and that 100 Fellows were present.

The SECRETARY reported the death, on July 6th, at the age of 89 years, of Mr. John Birkett, past President and past member of the Council and of the Court of Examiners. The following vote of condolence was then passed by the Council:—

The Council hereby express their deep regret at the death of Mr. John Birkett, past President of the College, and their sincere sympathy with the members of his family in the loss which they have sustained. The Council do also record their grateful remembrance of the services rendered by Mr. Birkett to the College in the conscientious discharge of the several duties which devolved upon him as President, member of the Council, and of the Court of Examiners.

The SECRETARY reported the death, on June 18th, at the age of 78 years, of Mr. Edward Trimmer, secretary of the College from 1865 to 1901. The following vote of condolence was then passed:—

The Council hereby express their deep regret at the death of Mr. Edward Trimmer and their sincere sympathy with Mrs. Trimmer in her bereavement. The Council do also express their appreciation of the singular ability and zeal with which Mr. Trimmer for so many years discharged the duties of secretary, and not only for these services do the Council desire to record their warm regard for his memory but also for the many excellent qualities that he possessed which won for him the personal esteem and confidence of the numerous members of Council during his long connexion with the College.

It was resolved on the recommendation of the Committee of Management that the following institutions, which have been visited by a member of the committee and reported as fulfilling the requirements of the Board, shall be added to the list of institutions recognised by the Examining Board in England for instruction in chemistry, physics, and practical chemistry: the Institute of Science and Art (Leeds), Oundle School, and Highgate School. It was also resolved that the North-Eastern Hospital for Children shall be recognised as a place of study during the fifth year of the curriculum.

The Laboratories Committee reported that during the three months ending June 4th 5495 doses of diphtheria antitoxin, each containing 3000 units, have been supplied to the Metropolitan Asylums Board, making a total of 16,485,000 units.

Notice has been given to the Metropolitan Asylums Board that the Royal Colleges of Physicians of London and Surgeons of England do not intend to renew the contract for the supply of antitoxic serum.

A report was received from the committee appointed to consider the high percentage of rejections at the recent examinations of the Court, in which it was stated that the committee was of opinion that it is essential to maintain the high standard of the examination and that it had no reason to suppose that the standard had been raised. The report was approved.

The following professors and lecturers were appointed for the ensuing year:—Hunterian professors: Mr. C. T. Dent (Congenital Hypertrophic Stenosis of the Pylorus and some other Rarer Disorders of Children), Dr. W. S. Handley (The Dissemination of Mammary Carcinoma), Mr. J. P. L. Mummery (The Physiology and Treatment of Surgical Shock and Collapse), and Mr. M. S. Mayou (The Changes produced by Inflammation in the Conjunctiva). Erasmus Wilson lecturers: Mr. L. S. Dudgeon (Peritonitis, a Bacteriological Study), and Mr. P. W. G. Sargent (Peritonitis, a Bacteriological Study). Arris and Gale lecturer: Dr. D. J. Armour (The Anatomy, Physiology, and Surgery of the Gasserian Ganglion).

A letter was received from Dr. E. Liveing reporting that the Royal College of Physicians of London had appointed delegates to confer with the delegates appointed by the Royal College of Surgeons of England on the subject of diplomas in tropical health.

The SECRETARY reported that the University of London had applied for the renewal of the loan of specimens from the museum of the College for the purpose of its practical examinations in pathology during the ensuing year and that the University would be willing to hold these examinations at the College if the College should find it practicable to assist the University by affording the necessary facilities. It was resolved that this should be done.

Mr. Tweedy was unanimously re-elected President and Mr. A. W. Mayo Robson and Mr. H. T. Butlin were appointed Vice-Presidents. Mr. John Langton was reappointed a member of the executive committee of the Imperial Cancer Research Fund.

A letter was read from Dr. Charles J. Martin, Director of the Lister Institute of Preventive Medicine, stating that the governing body of the Institute had deemed it advisable to appoint a small antitoxin advisory committee "to consider and report upon important questions concerning the value and standardisation of various antitoxic and other sera" and inviting the President of the College to become a member. The President undertook to act as requested.

It was resolved to hold the next meeting of the Council on July 28th.

THE CHOLERA IN PERSIA.—The Teheran correspondent of the *St. Petersburg Viedomosti* states that the cholera broke out in the province of Kermanshah, the governor of which on the first signs of the outbreak ordered out four medical men from Teheran who were distributed amongst the points where fatal cases had been observed. Three of the medical men were Christians. On the day after their arrival a mullah died from the disease at Kunkaver and the friends of the mullah began to say that the medical men were poisoning the patients. Such reports were sufficient basis for the fanatics to chase the medical men out of the district back to Kermanshah whence, however, they send medicines to the postmaster of Kunkaver for distribution where necessary. Although the superintendent of the quarantine station is Prince Ibtchadguss-Sultan (which is, being interpreted, "the object of the Shah's joy"), a most sincere man with a European education, the tradesmen and others thought fit to evade quarantine and thus carried the cholera to Teheran where it claims its hundreds of victims every day.

THE LANCET.

LONDON: SATURDAY, JULY 23, 1904.

The Conference of London Sanitary Authorities.

AN important and interesting conference of the London sanitary authorities has during the last two weeks been held at the County Hall in Spring Gardens. The conference was convened by the London County Council with the object of enabling these authorities to exchange views as to the administration of the public health law and to state their opinions by resolutions as to the way in which London may best be governed in matters relating to the public health. The metropolitan borough councils were constituted in 1899 and they have therefore been in office between three and four years. This has afforded ample time for them to study the problems which were presented to them and to organise their administrations in the way that appeared to them to be most desirable. The London Government Act, which stereotyped the system of district government in London as opposed to placing the total area under one central authority, made no advance in promoting uniformity of administration. It is against risk of weakness from this fact that the County Council has evidently been desirous of guarding and certainly no better course could be adopted than to bring together the several administrative bodies under the roof of London's representative council and to enable them to discuss with each other their respective experiences and to formulate conclusions upon which future developments can be based. We are glad to see that the sanitary authorities made a cordial response to the invitation of the County Council. There were, of course, three or four exceptions but so few as in no way to militate against the success of a scheme conceived in the interest of the vast population of London, and the result is that a number of topics of much importance to the well-being of London's inhabitants have been discussed and it may be anticipated that the efficiency of London sanitary administration will be distinctly advanced by the meetings which have just been held.

The proceedings were opened by Mr. J. W. BENN, the chairman of the County Council, and the meetings were subsequently presided over by Mr. HENRY JEPHSON, the excellent chairman of the public health committee of the Council. The subject matter which came before the conference was especially that with which the Public Health (London) Act is concerned but other kindred questions were discussed and resolutions were adopted concerning them. It is impossible for us here to do more than to touch upon a few but they will suffice to show the trend of public opinion in regard to some of the larger health problems of the day. One of the most important resolutions of the conference was "that the time has arrived when private slaughter-houses should cease to exist in London." This was adopted on the motion of Mr. J. H. PALMER of Fulham who gave excellent reasons in support of his proposals. He referred to the objectionable practice of driving cattle through the streets, to the necessity for insuring the adoption of the most humane method of slaughtering, and especially to the need for a system that would provide for the inspection of all meat put upon the market. It is earnestly to be hoped that this expression of opinion of the representatives of the London sanitary authorities will be taken into serious consideration by the County Council. While there are these weighty reasons for providing for the killing in public slaughter-houses of all animals intended for the food of man the only objections which can be offered to the adoption of this course are the fancied objections of the butchers. We say "fancied" for the experience of the continent has abundantly shown that the real interest of the butchers is not different from that of the public in this matter. If the butchers of Germany had now the option of going back to the old private slaughter-house system we do not believe that any would be found who would desire to do so. The convenience which the public slaughter-house affords them for doing their work in a clean and wholesome manner and the vast saving which is effected by the provision of cold storage in connexion with the public slaughter-house are such that no butcher having this experience would be satisfied with the restricted accommodation of the private slaughter-house which, moreover, makes no provision for storage in a cold atmosphere. It may be that the hot weather of the present season will lead butchers to consider this question anew.

Another subject which naturally received the attention of the conference was the need for a better milk-supply than is now generally available. The County Council was asked to seek legislation which would enable persons to be penalised who sell milk contaminated with filth. With this proposal the public will be in complete sympathy and it must be admitted that there is much need for the adoption in the dairy of methods which will exclude from the milk excremental matter from the cow and the products of disease of the teats and the udder. Here, as in the matter of meat inspection, England remains behind. The cleansing of the teats and the udder of the cow before each milking and the cleansing of the hands of the milkers are undoubtedly needed and in practice are at the present time generally neglected. The subject is, however, one to which the London County Council is now giving its attention and we trust that the matter may at no distant date be dealt with in a practical way. These contaminations in the main occur in the country cowsheds over which neither the London County Council nor the London sanitary authorities can at the present time exercise supervision. In London, however, the milk is often stored under undesirable conditions and the sanitary authorities feel the need for larger control over the numerous milkshops than they now possess. There is no power to refuse to register any milk vendor; for the registration which is obligatory upon him only suffices to indicate where he is carrying on his business in order that his premises may be brought under regulation. The metropolitan borough councils desire to go further and to be able to require him to abandon premises which they deem to be unfit for the purposes of the milk trade. This is a question which

may well be considered in connexion with any amendment of the Dairies, Cowsheds, and Milkshops Orders which may probably be made now that the Royal Commission on Tuberculosis has issued an interim report. Beyond this, however, the conference resolved that sanitary authorities ought to be possessed of powers to supply sterilised and "humanised" milk for infants.

An interesting discussion arose upon the proposal that cases of measles should be notified in London. The extent of mischief which this disease causes in the child population was evidently realised and public opinion is undoubtedly demanding that serious efforts should be made to minimise it. The subject is surrounded with difficulty but it may be hoped that the association of the work of education with the administration of the London County Council will lead to more complete study of the behaviour of this disease in London. The proposal that measles should be notified was not carried but the question will no doubt be more ripe for decision at a later date when we may expect that it will be further considered. The need for a daily collection of house refuse was discussed and the example of Aberdeen, where this is systematically done, was pointed to by the Rev. J. H. ANDERSON of Wandsworth. The conference finally arrived at the conclusion that a daily collection should be carried out in suitable districts. Other resolutions in favour of the establishment of crèches by the metropolitan borough councils and in favour of the Metropolitan Asylums Board making provision for the isolation and treatment of cases of pulmonary tuberculosis were adopted on the motion of Dr. T. O. DUDFIELD, as was a motion in favour of that Board extending its ambulance system to the removal of medical, surgical, and mental cases and providing for a street ambulance service if the County Council was not able to do so. The London County Council and the metropolitan borough councils may well be congratulated on the success which has attended their conference. Its results will probably be found in improvement of existing methods and in the general raising of the standard of public health administration in London.

Dispensing by Medical Men.

THERE are certain questions connected with medicine which seem to be of perennial interest. They retain the freshness of the evergreen and it is impossible, by any exercise of the editorial closure, to bring discussion to a satisfactory end. They possess the hypnotising fascination for medical men that was exerted by the head of King CHARLES upon Mr. DICK. It is as impossible to convince those of opposite views as to reach finality on the authorship of the letters of JUNIUS, the claims of SHAKESPEARE to the writings currently ascribed to him, or the madness or otherwise of HAMLET. These topics will probably furnish material for debate for all time. They might almost be regarded, in the famous phrase of Lord DUNDREARY, as "things which no fellow can understand." The most frequent medical equivalent or example is the old trouble about dispensing by medical men. Not very long since our readers were startled by a proposal made by a London consultant to inflict fines and other penalties upon those who were guilty of this offence. This proposal did not find favour with the profession generally but it led to a reappearance of the epidemic of correspondence on this favourite topic, an epidemic which was only checked in its course by the exercise of editorial discretion. Correspondence had to be discouraged as soon as it was felt that for the time all the arguments had been used and that there was danger of nausea from too prolonged indulgence in the monotonous diet. The subject was argued on both sides, both by general practitioners and by dispensing chemists, and the conclusion of the whole matter seemed to be that no medical men enjoyed dispensing but that to discontinue would be an impossibility in many poor districts in large towns, as well as in neighbourhoods which are too scantily populated to support a druggist, even were it practicable to come to some arrangement by which medicines could be dispensed at a uniform and moderate rate. All these arguments have been placed before our readers many times and the subject seemed to be worn threadbare. While its antiquity might constitute a claim for respectful consideration, the repetition of wise saws and modern instances induced lack of attention. Those happily free from the cares of dispensing could spare sympathy for those less fortunately circumstanced, while the latter, in spite of mild envy, manfully battled with their appointed task, occasionally grumbling a little but on the whole making the best of things.

We live in an age in which it has become the fashion to invoke State aid for the relief of all in distressed circumstances. Accordingly it is not surprising to find that in a paper recently read at a general meeting of the London Chemists Association the writer, Mr. G. P. POND, ingenuously sought to find in State aid the *modus vivendi* both for the general practitioner and the pharmaceutical chemist in their struggle for existence. This paper deserves serious consideration because the subject is treated so sympathetically and the new arguments are the outcome of considerable experience. Too often those who indulge in correspondence on this subject write as though some degree of rivalry or antagonism necessarily influenced their arguments. This is much to be regretted and cannot conduce either to the public interest or to that of the disputants. It accentuates the unfortunately hostile relations which occasionally exist in districts where the struggle for existence is great. Under financial strain there is a constant endeavour to seek an explanation in local conditions; the general practitioner lends too ready credence to tittle-tattle of the encroachments of the neighbouring druggist who in turn may perhaps retaliate *more suo*. The truth is that, as in all disputes, there may be faults on both sides, since they are suffering from similar anxieties. A better understanding can only be attained when each side honestly endeavours to realise the point of view of the other. Addressing a meeting of druggists it must have needed some courage to admit that while there was a distinct evil of which they felt they had a right to complain there were many points requiring mutual adjustment and that it was worth while to consider the subject from the medical man's point of view. It is extremely interesting to find that "from the doctor's point of view" as represented by a druggist it is almost inviting bankruptcy for a medical man in average practice to hope that patients will be able to pay

his fees for advice and also to pay a druggist for supplying medicine; it is held that in such circumstances at the end of a month the pharmaceutical druggist will probably have received about four times as much as the medical man and that the medical man would soon lose more than half his practice. Mr. POND supports his contention by figures which leave a very gloomy impression of the hardship of the average country practitioner and demonstrate the unsatisfactory results likely to be attained by any attempt to come to an arrangement with a neighbouring druggist. Some might object to undertake the work, while others would feel that the medical man should make an effort to render the dispensing inexpensive. The argument here appears a little illogical: the medical man is said to order many out-of-the-way articles through a pharmaceutical chemist, which would be avoided if he dispensed his own medicines, and it is not very clear whether it is intended that these should never be used or whether it is thought that the patient benefits from their employment. After touching upon the harm which is often done by ignorant criticisms of a prescription or by random explanations of the assumed purpose for which each ingredient has been prescribed, Mr. POND reaches his chief point—viz., the harm which has resulted from an abuse of the gratuitous work of the out-patient departments of the large hospitals. It is distinctly refreshing to find a layman admitting that the crowded condition of an out-patient room is not a source of financial advantage to the physician or surgeon in attendance, who protests, to the best of his power, against any abuse of the charity by those who can afford to pay for the services of a general practitioner.

There is good reason to believe that in this way many well-to-do persons obtain advice and medicine gratuitously, and that inroads upon the income of general practitioners also result from the growing tendency of employers of labour to subscribe a moderate sum to a hospital and to send up all their employés who meet with accidents in their work. The solution that is suggested is unhappily one which is quite impossible. It is argued that since King EDWARD'S Hospital Fund is intended to pay for the gratuitous medical treatment of the poor all who are engaged in such work should in some way share in the benefit of the Fund and we are asked, "Why should not every medical man who opens his door to see necessitous patients daily receive from the State a monetary consideration?" It is suggested that in such circumstances the dispensing chemists might be able to receive their "dispensing rights." Of course, the obvious answer is that no medical man ever receives any share of the King's Fund; that the Fund is insufficient to meet the working expenses of the different hospitals in the metropolis; that all medical men, whether engaged in hospital work or those in private practice in the poorest districts, daily perform a large amount of gratuitous work; and that it is impossible to conceive any fund large enough to pay for this and to allow a further margin for the payment of the dispensing chemist. To attain the object of the writer of this well-intentioned paper it would be necessary to raise a fund by some tax levied upon the entire population of the country and this does not seem possible or desirable. While it is undoubtedly true that the development of hospitals tends to diminish the incomes of medical men in their vicinity and that every effort should be made to prevent any abuse of the charity, this side of the question has very little to do with the need of dispensing by medical men. We have on former occasions expressed a belief that in thinly populated districts the practice is as inevitable as it appears to be in the poorest parts of large towns where patients can only afford an extremely small sum, if they are able to make any return for the advice and the medicine which they receive. This latest suggestion of State aid for general practitioners and for druggists cannot hope for serious support from those whom it is intended to benefit and it is certain to meet with opposition from those who at present contribute to the King's Fund or who in the future would be called upon to pay a special rate.

The Disintegration of the Atom.

THE transition of atoms possessing high energy into atoms possessing less energy as exemplified in the astounding radio-active manifestations of radium has brought about the most remarkable revolution of ideas that has ever been recorded in the history of chemical science. It would be presumptuous to assert that the discovery of radium has thrown absolute light on the nature of things. While it is true that certain conceptions have become clearer than before, yet some confusion has necessarily arisen owing to the difficulty of reconciling radio-active phenomena with what were conceived to be well-founded theories. The atomic hypothesis of DALTON has been allowed to remain practically unassailed since its conception by its author early in the nineteenth century. No development in chemical science has disturbed its foundation; on the contrary, so firm has its substructure proved to be that the whole domain of chemical science has been firmly built upon it for nearly a hundred years. Considering what enormous advances chemistry has made during that time no higher tribute could be paid to DALTON'S conceptions. History records clearly enough, it should be stated, that the notion of atoms had been entertained in classic times but the essential point of DALTON'S theory was that the atoms of one type of matter were all alike, possessing, however, specific characters of their own which marked them off distinctly from the atoms of any other type.

The fact that radio-activity is a manifestation of the disintegration of an atom has now laid bare a difference existing between atom and atom lying side by side in the same sphere. There are the disintegrating atom and the non-disintegrating atom. The term "metabolon" has been proposed by RUTHERFORD and SODDY to denote unstable atoms and thus a "metabolon" is an atom with, so to speak, a limited life. "While it exists it is a normal atom possessing the ordinary attributes of matter. At the moment of its disruptive change it exhibits the property of radio-activity." The cause of disintegration is unknown. The products of disintegration are simpler particles than the entity from which they originated. In the case of the disintegration of radium helium has been ascertained to be one of these products and perhaps polonium is another, yet radium bears a marked resemblance to barium, calcium, and strontium, which we regard as

elements. Is it possible that under suitable conditions barium, calcium, and strontium may be further analysed and that in them a disintegration may be brought about into new bodies? The old definition of an element in chemical text-books is, after all, sound if we accept that it is a substance which has so far defied further separation into simpler bodies. But obviously this implies that the moment that analysis is capable of resolving a body into simpler substances that body ceases to be included in the elementary group. The notion that an element was a substance *actually* incapable of being further split up has disappeared in the light of the recent enormous advances in chemical science. It is hardly scientific to assume that bodies must be elements because of our inability to decompose them. We are content rather to call them elements as merely signifying the limitations of our resources to resolve them into simpler substances. At one time it was the custom of teachers to state that there were some 64 elements known to chemical science and the list has in a few years extended to 80 and is still being extended. In the study of rare gases and rare earths a supposed new element has appeared on more than one occasion which in the light of further analysis has proved after all to consist of a group of elements. The belief has therefore not unnaturally gained ground that the elements have been derived from still simpler forms—possibly one form—of matter by some process of evolution. Can the process be reversed which will bring us to the isolation and recognition of primal matter? Radium, we know, behaves as an endothermic compound in process of decomposition and amongst the products is helium and it may be that some day recombination of the products of disintegration may be accomplished at extremely high temperatures.

After all we are but onlookers for a very tiny fraction of time in the great cosmic history of a process of evolution which has been going on for indefinite ages and the process of disintegration from the higher to the lower state, of the formation of stable from unstable atoms, is exceedingly slow. The position is well summed up in a recently issued work by Mr. FREDERICK SODDY, M.A.,[1] whose labours in the investigation of radio-activity are well known and have borne abundant fruit. "Of all possible groupings of matter," he says, "the atoms of the periodic law probably represent only a selected number—viz., the forms with longest life—which exist to-day, because they have survived a long process of evolution in which those physically unfit have disappeared. The transition forms already spoken of represent, on the other hand, the elementary forms of matter physically unfit to survive but which are brought within our powers of knowledge because they constitute the temporary halting-places through which matter is passing in a scheme of slow, continuous evolution from the heavier to the lighter forms. The original radio-active elements may be described as the connecting links between the two classes partaking of the properties of each. They are changing but so excessively slowly that some still survive. This gives us an insight into the reason of the stability of the elements. Matter has passed to its present position of apparent immutability by a long process of natural selection. The elements known to the chemist are stable because they exist and have survived. On the other hand, it is now possible to examine some excessively unstable forms of matter. Radio-activity might be defined as the science of the ephemeral elements." Truly Madame CURIE'S discovery was splendid.

[1] Radio-Activity: An Elementary Treatise from the Standpoint of the Disintegration Theory, by Frederick Soddy, M.A., lecturer on Physical Chemistry and Radio-activity in the University of Glasgow. 1904. The Electrician Printing and Publishing Company, Limited, Salisbury-court, Fleet-street, London, E.C.

Fried Fish as a Cause of Enteric Fever.

WE have received from the medical officer of health of the Administrative County of London his report to the County Council presenting a report by Dr. W. H. HAMER on the prevalence of enteric fever in the metropolis at the close of 1903. In the course of his introductory remarks Mr. SHIRLEY F. MURPHY tells us that the present is by no means the only occasion within recent years on which fish, either cooked or raw, has come under suspicion of having caused the spread of enteric fever. Since the year 1899 at least four considerable outbreaks of this disease in London have been attributed with much probability to the eating of fried fish, and further it is important to note that subsequent examination of the charts of the prevalence of fever in the infected areas indicates almost certainly that several other limited outbreaks of that disease have occurred in the metropolis since 1896. Nor does the occurrence of enteric fever from eating fried fish appear to have been limited to London, for Mr. SHIRLEY MURPHY cites, on the authority of the Local Government Board, two recent similar occurrences in the provinces—one at Huddersfield reported by Mr. E. G. ANNIS, late medical officer of health of that borough, and the other in the urban district of Sandal Magna which is under the sanitary guardianship of Dr. A. S. WILLIAMSON. Two special features have been found so constantly present in the aforesaid London outbreaks that they have come to be regarded as characteristic—the occurrence of multiple attacks in particular houses and the exceptional distribution of age incidence among the patients, persons at the ages of from three to 25 years being attacked in quite unusual proportion. This combination of abnormal age incidence with multiplicity of attacks in the same houses was found throughout the inquiry to be associated invariably with two other conditions—poverty and the eating of fried fish, it having been found impracticable to specify any London area in which this article of food, apart from poverty, had caused the spread of enteric fever.

The following are the circumstances which led to the present inquiry. In December, 1903, a group of attacks of enteric fever occurred in Holborn, which Dr. W. A. BOND, the medical officer of health of that borough, believed to be due to the ingestion of fried fish obtained from two particular shops; one of these was situated in Westminster, in which city other cases were simultaneously discovered which were apparently due to the same cause. The matter having been reported to the county medical officer, Dr. HAMER, who had investigated certain prevalences of enteric fever in the year 1900 and had traced them to the consumption of fried fish, was instructed to make investigation of the facts. In view of the frequent association of the prevalence of enteric fever with a contaminated water-supply Dr. HAMER'S attention was in the first place very naturally directed to

that point. He discusses the topographical distribution of the attacks and the time relations between flood in the Thames and the exceptional spread of fever in South-west London, and eventually he concludes that the hypothesis of conveyance by water is untenable. The possible causal relationships to the prevalence of enteric fever of other articles of common consumption are severally passed in review—such as milk, ice-creams, water-cress, celery, shell-fish, and the like—but in each case with a negative result. On the other hand, he finds that not only is the hypothesis of infected fish consistent with the facts as to exceptional prevalence of enteric fever in various parts of London towards the close of 1903 but that no other adequate explanation of that prevalence is forthcoming. Dr. HAMER has been at the trouble to prepare a spot map and other diagrams for this report which greatly assist the reader in following its many instructive details.

In further discussing the influence of poverty and therefore incidentally of the food-supply on the spread of enteric fever, Dr. HAMER remarks that amongst the very poor, fish, generally fried, forms a large portion of the ordinary dietary—in an exceptional case cited by him not less than 40 per cent. of the population within a limited area having simultaneously partaken of this food from a single fried-fish shop. The history of the outbreaks of enteric fever here referred to seems to point to the existence of much carelessness amongst the slum population in the preparation of fish as an article of food. From what is known of the effect of heat on bacterial organisms it would be warrantable to regard proper cooking as a safeguard against harm from the eating of even infective food of this character. It appears, however, from the report that not only is fish often imperfectly cooked but that it is in addition frequently insufficiently cleansed. It is noteworthy in this connexion that sufferers from enteric fever have in several instances complained that the fish which they had eaten was of disagreeable flavour and even that it had made them sick, and we know that imperfectly cleansed fish has a peculiarly bitter taste. Imperfect "gutting" is apparently far from uncommon in the poorer quarters of London, especially in busy seasons. Dr. HAMER speaks of having himself seen displayed in a shop small fish from which the heads and portions of the entrails had been cut away by one stroke of the knife but from which the gut had not been completely removed. Experience shows that "dabs" and small plaice are procurable at Billingsgate for about one halfpenny per pound and as the process of cleaning very small fish is a laborious and therefore costly one the temptation in busy times to remove the heads only and to fry the fish with the gut still contained in them must be great. In Southwark these diminutive fish, which are there known as "halfpenny bits," seem for the above-mentioned reasons to be especially mischievous. In conclusion, Dr. HAMER suggests that it by no means follows, because outbreaks of the magnitude of those of 1900 in Southwark and Lambeth are of quite rare occurence, that therefore the infection of enteric fever is only exceptionally transmitted by fish. That such transmission is not oftener recognised may be partly due to the very fact that the mischief is not localised but is widely spread. While the consumption of oysters, cockles, and other shell-fish a fortnight before attack by enteric fever is regarded as significant, no corresponding importance is attached to the consumption of fried fish. This attitude of mind, it may be said, is justified by the consideration that the eating of fried fish is common and that the eating of oysters, cockles, and other shell-fish is rare. If a food is frequently eaten this in itself tends to render it improbable that it will attract attention, while, on the other hand, oysters, which are rarely purchased, are more likely on that account to be regarded as a special source of mischief. In the case of fish, as in that of oysters, the sufferer is often the only member of the family who has consumed the food and this renders inquiries at the home after the removal of a patient to hospital unlikely to produce positive results. In concluding our brief review of Dr. HAMER'S instructive report we wish it were reasonable to entertain the hope that the carelessness and uncleanliness which it reveals as obtaining among the very poor in the preparation of fish food were likely to be amended. As, however, in existing circumstances such improvement is hardly to be looked for, we fear that further sacrifice of life will be heard of at no distant date as a result of eating under-cooked and filthy fish.

Annotations.

"Ne quid nimis."

CLIFT, HOME, AND JOHN HUNTER.

BUNDLES of old papers sometimes reveal the characters of men more intimately than does the best biographer. Thus, the parts played by Sir Everard Home and Clift, the Conservator of the Royal College of Surgeons, in a once famous controversy are curiously illustrated by some MSS. which have just come to light among the late Sir Richard Owen's papers. Among these MSS. is the first lecture on Comparative Anatomy delivered by Home at the College in 1813. It has been published but in its printed shape does not give evidence of the scrutiny to which the Home papers were subjected by Clift when reporting to the College council upon Home's destruction of the great John Hunter's unpublished notes. As MSS. Home's papers are well worth the attention of all who revere Hunter's memory, as are Clift's papers, found together with them, in which he reports on Home and Hunter. Clift has manifestly read Home's MSS. diligently in search doubtless of some confession on Home's part of the extent to which that *insouciant* plagiarist was indebted to Hunter for the bulk of his knowledge. The lecture referred to is marked by a piece of white silk thread where Home writes of the College Museum: "I shall explain to you the preparations that are contained in the collection and lay before you the results of Mr. Hunter's labours and sometimes of my own upon the subjects connected with them." Home casually confessed to Clift that he had burnt all Hunter's unpublished writings, thereby, of course, inflicting irreparable loss upon science. In this College lecture he has the effrontery to belittle Hunter's notes and by inference his own guilt. Speaking of John Hunter he says, "Had that great man lived to complete his collection and leave behind him a descriptive catalogue of the preparations, the task would have been less difficult, but the imperfect state in which he has left the records of his knowledge places me under great disadvantages." Imperfect as the records may have been, the windbag Home owed all his knowledge and

reputation to them and became F.R.S. and Hunterian lecturer on the strength of them. A fact not generally noted is that the handwriting of Everard Home and the handwriting of John Hunter had a very close resemblance. It may possibly be that Home not only copied Hunter's notes into his precious lectures but actually lifted portions of Hunter's writing into his numerous MSS. Many scraps of writing have been found stuck in an old copy of Home's paper on whales. They are without water-marks and it may be that they were snipped by Home from some old Hunter note-book which he afterwards burnt. Hunter also certainly wrote on whales.

REGENERATION OF BONE IN TRITONS.

IN a communication published in the fourth part of the 63rd volume of the *Archiv für Mikrokopische Anatomie*, Professor Wendelstadt of Bonn gives an account of a long series of researches which he has made upon the process of regeneration in the bones of the forearm, after amputation of the limb, in Tritons. Previous experiments on axolotls had satisfied him that in those animals regeneration or reproduction of those bones only takes place when either the cartilage or the perichondrium is left behind. In the first set of the present experiments on Tritons the right forearm was amputated in a considerable number near the elbow-joint. Five days after the operation the arm was removed at the shoulder-joint and in thirty-one others at successively later periods at intervals of 24 hours. In the second set of experiments the intervals between the amputation and the removal of the limb at the shoulder was reduced to eight hours for eleven days. The number of sections made and examined was 264. The proceeding adopted was that the limbs with the humerus and upper portions of the radius and the ulna were without loss of time placed in Flemming's solution, thoroughly washed, decalcified, and preserved in alcohol. They were then embedded in paraffin and stained with hæmalum. The first point noticed was that after 16 hours in most, but not quite in all, cases a considerable production of cells took place from the edges of the skin forming a protecting covering to the cut surface, several cells deep. In the course of the next few days an infiltration of small cells, the origin of which Professor Wendelstadt was unable to discover, occurred in the tissues in the immediate proximity of the wound. From these cells the connective tissue in the new structures is developed and they play an important rôle in effecting the absorption of the damaged bone—that is to say, the bone in the immediate vicinity of the amputation. Either singly or in groups they attack the outer surface of the bone and penetrate into the medullary cavity, eroding the osseous tissue with such energy that they sometimes isolate small fragments which form sequestra. Several cells unite together with fusion of their protoplasm and thus form giant cells which are first observed at about 60 hours after the operation and persist in their erosive action for as long as 12 days. The periosteum becomes thickened, the thickening being very marked in sections made on the twenty-first day. In those made a few days later club-shaped bone processes appear which are shown in the drawings to start from or near the ends of the bones. At the same time small isolated masses of cartilage may be seen which are the rudiments of the fingers. Both the bony processes and the masses of cartilage are small and isolated at first but gradually increase till they attain their normal size. Although these events take place with great rapidity it is remarkable that it was only in one section that Professor Wendelstadt observed a bone cell presenting the characteristic features of active mitosis. New bone is formed by the endosteum as well as by the periosteum, especially near the end of the bone. The new muscles and nerves are developed from appropriate cells in continuity with the old tissues but the processes in these two tissues are not quite identical, cells with nuclei undergoing division being found in the new muscles but not in the new nerves. In the latter the axis cylinder seems to be prolonged forwards without cell growth.

THE PREVENTION AND TREATMENT OF CANCER.

WE have received the following communication from the committee of the Liverpool Cancer Research :—

Cancer Research Laboratory, The University,
Liverpool, July, 1904.

In view of the increasing prevalence of cancer the committee of the Liverpool Cancer Research deem it their duty to call attention to what may be done to combat this increase. No specific cure for cancer is yet known, but, as with consumption, the earlier the treatment is commenced the greater is the chance for its success. Unfortunately a large number of people put off seeking the advice of their doctor instead of going to him immediately they notice anything wrong. It may be pointed out that certain organs are more often affected than others. In men cancer of the gullet, stomach, and intestines; in women cancer of the breast and the womb, account for about two-thirds of all cases of cancer. There are, of course, many other only slight ailments of these organs. The committee feel that they cannot too strongly state how important it is that the disease should be recognised at the earliest possible moment. This recognition can only be attained by the patient going to his or her doctor for examination at the very beginning of illness.

We endorse heartily the suggestions of the Liverpool Cancer Research Committee that persons with any suspicion of cancer should seek medical advice early but there is the great difficulty that the early manifestations of the disease are often exceedingly slight. It is important, too, that medical men themselves should be on the look out for malignant disease. In this connexion medical men may well bear in mind the value of hospitals as affording opportunities for consultation on cases occurring amongst the poorer classes of the population. This is one of the most legitimate functions of the out-patient department of hospitals and it is not utilised to the extent which it deserves.

PRISON CLEANLINESS.

"WE hear frequently of the absolute cleanliness which is insisted upon by our prison discipline. The buildings, bedding, clothing, and utensils are kept in a condition bordering on perfection and meals are served in a manner to which no one can reasonably object. But the cleanliness is found only in connexion with inanimate objects." Thus a writer who has completed recently a term of one month's hard labour in one of His Majesty's local prisons and who has been forced to the conclusion, he says, that so far from precautions being taken to insure the prisoner's personal cleanliness regulations of a vexatious nature are laid down which actually compel him to live in a condition of filth. The following facts are those upon which he relies to substantiate his sweeping statement. "Each occupant of a prison cell is provided with a set of pewter vessels, termed 'tins.' This set comprises, drinking-vessel, plate, water-can, wash-basin, dust-pan, and urinal, the last-named being the only one provided with a cover; but the cover must not be put on during the day otherwise an inspecting officer would be unable to tell at a glance whether vessel and lid were clean. To keep all these tins bright a bundle of rags and a supply of brick-dust is provided. Now the unfortunate prisoner cannot tell for what specific purpose his predecessor has used any individual fragment of cloth. As a consequence he may *clean* his tableware (wooden spoon included) with a rag which has been very differently utilised. In the course of a month he may occupy three different cells, so having to attempt this differentiation three times over. But so long as the tins look bright authority does not concern itself with the trivial discomfort alluded to. Once a month about half a square yard of clean rag is provided. As regards daily ablutions, there is no rule against a prisoner washing half a dozen times a day if he be so minded. He is, however, allowed only about half a

gallon of water for both washing and drinking purposes, and all his tins, with the exception of the water-can, must be clean and *empty* throughout the day. On getting up in the morning he has to wash, dress, and sweep out his cell, being ready to put wash-basin, dustpan, urinal, and water-can on the door sill directly the door is opened. This has all to be done hurriedly and he has generally to content himself with the merest 'lick and promise' of hands and face. Experience may teach him in time, though that on one morning in the week when bedding is inspected he will get a minute or two more. This brief period gives him his only opportunity in the week of washing any other portion of his anatomy, thus the neck and ears get some attention. Tooth brushes are unknown. Hair brushes are filthy and add another horror to a change of cell. Also, it is enjoined that *after* having washed the prisoner must scrub his cell; so that even if his perfunctory dabble in about one and a half pints of water has served to make his hands clean they are not allowed to remain so for ten minutes. A single pail of scrubbing water does duty for more cells than one. Some prisoners are anything but cleanly in their habits and seem to delight in the passing of filth from cell to cell. The treasured fragment of soap with which a man who longs to be clean attempts to wash himself must be used upon the floor in conjunction with the scrubbing brush. True, prisoners have a warm bath once a fortnight, but this is the merest farce. One is not given time to use the soap before there comes a peremptory order to 'let that water off and get out.' Again, as regards the water tin. A prisoner may be rejoiced to find that his plate just serves to cover its wide top and it will seem to him that he may thus keep his only drink to some extent free from dust throughout the day. But this is against the rules. The plate must be set nearly upright so that a glance will reveal any dulness on its surface. The water is thus left free to absorb dust and impurities throughout the entire 14 hours. Another point may be alluded to as showing how little care is taken to preserve health and cleanliness among prisoners. A diet of brown bread and porridge is, as everyone knows, calculated to induce diarrhœa. Yet the prisoner is supposed to go to the w.c. but once in the 24 hours. He may ring his bell and ask leave to go again. The bell may or may not be answered. If it is it matters not how he prefers his request, he is certain of abuse and by no means sure of the desired permission. On his discharge he receives his own linen—unwashed." We give our correspondent's statement exactly as he sends it. He incloses us a reference to his *bona fides*. It is well-known to us that in many prisons better conditions prevail but the other side should be shown in the interests of the medical officers who will thus have their hands strengthened in attempts at sanitary reform.

MEETING OF THE BRITISH MEDICAL ASSOCIATION: THE PATHOLOGICAL MUSEUM.

WE have on previous occasions alluded to the decadence of this museum of late years[1] and it is with great pleasure that we call special attention to the exhibition which is promised this year by Dr. James Ritchie, Dr. E. W. Ainley Walker, and the local committee at Oxford. Among the material promised we note specimens, photographs, and other material illustrating recent advances in medical science; apparatus for skiagraphy; colour photography in relation to medical, surgical, and pathological work; apparatus for photo-micrography; specimens bearing on the discussions in the various sections; and, more useful perhaps to the general mass of the profession who attend the Association, instruments for clinical diagnosis. We are informed that a room will be fitted up with various recent inventions for clinical diagnosis. The idea of the founders of the pathological museum was that it should form a valuable means of education and interest for the whole profession and particularly for those who were engaged in busy country and provincial practice. Unfortunately, in process of time it failed to keep up to this ideal. We congratulate the local committee on its attempt to restore the museum to the position which it used to occupy and we cordially wish these gentlemen every success.

[1] THE LANCET, Sept. 6th, 1902, p. 701, and August 22nd, 1903, p. 545.

ANTIMONIAL AND LEAD POISONING FROM THE USE OF THE LINOTYPE MACHINE.

IN the *British Journal of Dermatology* for July Dr. Leslie Roberts has called attention to the fact that though the use of the linotype machine has greatly reduced the danger of lead poisoning among compositors such danger still exists, as the following case shows. A compositor, aged 29 years, began to fail in health about a year after the introduction of the linotype machine into the works where he was employed. There were pains in the limbs, tenderness of the fingers, constipation, and excessive perspiration. He continued to work for three and a half years after the onset of the symptoms and consulted several medical men but was never suspected to be suffering from metallic poisoning. After absence from work the symptoms abated but on resuming work the patient relapsed. Tenderness of the palms and the fingers increased so much that it compelled him to give up work and he entered a hospital. The hands were damp with excessive perspiration and the palms and fingers were of a faint pink colour. On the thenar and hypothenar eminences were minute pale papules. Dr. Roberts thought that the patient was suffering from arsenical poisoning but the makers of the linotype metal guaranteed that it consisted of tin, antimony, and lead, and was free from arsenic. Microscopic examination of the affected skin showed congestion but no leucocytosis. The poison had spent its force on the epithelium in an irregular manner. The stratum lucidum was remarkably thickened, the rete cells were actively proliferating, and the prickle cell stratum was enlarged. The epithelial ridges were enlarged laterally and there was cavernous dilatation of the intra-epithelial portion of the sudoriparous ducts. Such changes are produced by a metal of the arsenical group and must have been due to the antimony. In addition to the constipation there was evidence of lead poisoning—tremors and lead in the urine. The absence of colic may have been due to modification of the symptoms of lead poisoning by the antimony. This case shows that air shafts and ventilators should be fixed above the trough containing the molten linotype metal for the purpose of carrying off the fumes.

TUBERCULOSIS (ANIMALS) COMPENSATION BILL.

WE have received a copy of "Notes of Evidence" submitted to a select committee of the House of Commons by Dr. Henry O'Neill, consulting surgeon to the Royal Victoria Hospital, Belfast, in reference to the Tuberculosis (Animals) Compensation Bill. Dr. O'Neill explained that in Belfast the meat-supply is carefully inspected by a staff of one superintendent and five properly qualified meat inspectors assisted (when required) by a veterinary surgeon and such other scientific experts as the market committee may consider necessary. These inspectors endeavour to carry out to the best of their judgment the recommendations of the Royal Commission on Tuberculosis. In consequence of this action certain carcasses are condemned and Dr. O'Neill brought forward statistics to show that a heavy financial loss fell upon the butchers, several of whom had consequently been "driven out of trade." Dr. O'Neill considered that this loss should be partly borne by the

public, provided that no compensation should be granted for beasts under £8 in value. He further pointed out that each animal that suffers from tuberculosis is while alive a source of contagion to other cattle, whilst its flesh if eaten is capable of causing tuberculosis in the human subject. He believed that the granting of compensation would tend to diminish the disease but in order more quickly to diminish and eventually to stamp out tuberculosis in cattle he offered certain suggestions, amongst which were the following: 1. That all inspection of cattle and meat should be carried out by properly trained meat inspectors (qualified under the Public Health Acts) under the supervision of a veterinary surgeon. 2. That all private slaughter-houses should be abolished and that public slaughter-houses under municipal control should be established under each county council as recommended in the report of the Royal Commission on Tuberculosis. 3. That local authorities should be empowered to require all meat slaughtered elsewhere than in a public slaughter-house and brought into the district for sale to be taken to a place or places where it may be inspected, and local authorities should be empowered to make a charge to cover the reasonable expenses attendant on such inspection. 4. That it should not be lawful to offer for sale the meat of any animal not killed in a duly licensed slaughter-house. Dr. O'Neill also mentioned several points by the observance of which he thought that the prevention of tuberculosis could be aided largely by the State. He maintained that all cattle should be tested by tuberculin supplied directly by the Government authorities and that no other kind should be used, and that any beast which reacts to the test should be separated from the herd and slaughtered. The question of compensation to butchers for the loss of carcasses condemned by the inspectors is an involved one and whilst agreeing with most of Dr. O'Neill's remarks we reserve any further comment until the select committee of the House of Commons has issued its report.

POISONING BY ILLUMINATING GAS.

CASES of poisoning by illuminating gas have become frequent enough in Ireland to attract notice in recent years. "During the past three years no less than ten cases of poisoning by [illuminating] gas have occurred in Dublin. Seven of these were fatal." In the *Dublin Journal of Medical Science* for July Professor E. J. McWeeney gives an account (from which the foregoing quoted sentences are taken) of cases of poisoning by gas which have recently come under his observation. It is now well known that the toxicity of gas is largely due to the presence in it of carbon monoxide and in an annotation in THE LANCET[1] a year ago attention was called to this point. During the last 20 years of the past century, says Professor McWeeney, no case of the kind is recorded as having occurred in Dublin. As the mode of using coal gas has not changed, the sudden commencement of fatalities due to inhaling it which have occurred since 1900 can only be attributed to some change in the gas itself, and this was found to be actually the case. The Dublin gas supplied by the companies up to February, 1900, contained no more than the normal 6 per cent. of carbon monoxide. In that month, however, its proportion was raised to 16 per cent., since which cases of poisoning and of death have occurred. The fatal or serious cases investigated are grouped into the following classes. Class 1 comprised four cases which occurred in a two-storied house. One of the four persons affected by the gas died. The house had been visited previously to this by a medical man who warned the occupants not to sleep in it as a strong odour of leaking gas pervaded the rooms. No attention was paid to the advice given. On the next morning one of the occupants, a man, was found ill with headache, vomiting, and a persistent pulse of 120 beats per minute. He was removed in a condition of collapse to hospital and recovered under appropriate treatment. Another occupant and his wife staggered about in a stupefied condition but eventually recovered slowly when taken into the fresh air. The fourth occupant was an old man who was found dead and naked on the top floor. A necropsy was made and the following conditions were noticed. The lips and ears were of a bright pinkish-red and post-mortem stains of similar colour were present on the body. The blood, says Professor McWeeney, was mostly uncoagulated and of a bright cherry-red colour. It gave the tests (with tannin and alkali) for carboxyhæmoglobin and the spectroscope confirmed the same. The carbon monoxide gas was present in the blood to the extent of 73 per cent. of its volume. The gas company's officials found that the main gas-pipe was broken 18 inches below the macadamised surface of the road just opposite the house. The fracture was recent and the surrounding earth smelt strongly of gas. The sewers were examined and found to be intact. The leakage of gas affected most the tenants of the upper room in the house of which the old man was a resident. The second group of cases, all fatal, comprised a man and wife and their child. Accidental escape of gas from a rubber tube connecting with the lamp was the source of the mischief. Air which contains 2 per cent. of carbon monoxide produces headache, giddiness, and muscular prostration, and at 4 per cent. it becomes fatal. Professor McWeeney concludes that it should be the duty of gas companies to keep their gas of standard quality and that if excess of carbon monoxide gas is present it should be recorded daily to the sanitary authorities, and that gas should not be supplied to bedrooms of less than 1000 cubic feet capacity, while sanitary inspectors should have power to inspect faulty gas-fittings and to declare them nuisances under the Public Health Act.

[1] Carbon Monoxide Poisoning by Gas, THE LANCET, July 11th, 1903, p. 117.

THE PSYCHOLOGY OF SPIRITUALISTIC "MEDIUMS" AND THE DANGERS OF "MEDIUMSHIP."

Dr. Paul Sollier and Dr. F. Boissier, both of Paris, draw attention to the dangers of the practice of "mediumship" in spiritualism, a condition of affairs which seems to have counted many victims in France during the past few years. In the *Archives de Neurologie* for July several instructive cases under the care of Dr. Sollier and Dr. Boissier are recorded of the ill effects produced in those who are drawn into the ways and practices of spiritualism. Charcot and Forel had repeatedly pointed out the dangers incurred, especially by young women who devoted themselves to séances and training for mediumship, many of them having developed attacks of hystero-epilepsy after taking part in such performances. In an attempt to explain the psychological processes of the state of mediumship Dr. Sollier and Dr. Boissier point out that an exaggerated action of the subcortical automatic brain centres and a tendency to "doubling" of the personality inevitably accompany the state of mediumship whether induced by hypnotism or spontaneously. Persons suffering from a certain form of insane delirium are liable at times to assume the action and methods of a medium, as in a case recently reported by Ballet and Dheur. On the other hand, a medium whose brain and mind are normal to start with may, as the result of the practices of mediumship, gradually develop a proneness to hallucinations and insane delusions. Among the cases recorded by Dr. Sollier and Dr. Boissier was that of a woman, aged 36 years, the daughter of Jewish parents. She was a woman of brilliant intellect but her mind had been recently affected and her intelligence obscured by the experiences which she had gone through. Owing to neglect on the part of her husband, a dull and slow-witted

man who did not understand or appreciate her, she gave herself up to moods of brooding and romance, grew absent-minded, and even forgot her most important duties. At this time she met her uncle, an ardent spiritualist, from whom she imbibed the doctrines of spiritualism. Her husband did not share her views or her aspirations in regard to spiritualism, to the practices of which she now wholly devoted herself. She first suffered from hallucinations of "voices" speaking in her bosom. She then took part in table-turning and spirit-rapping and developed the habit of talking while under the influence of spirits. Her friends of the Jewish faith avoided her and, left alone to herself, she developed a host of delusions in which theological and mystical notions predominated. She evolved a system of astronomy and peopled the planets with gods, spoke of "molecules," "chemistry," and "Kamenism." This last term she invented as the name for a system of religious doctrine which she expounded. She finally developed erotic impulses and became addicted to masturbation. Wasting and weakness became prominent but under medical care and attendance she improved, although the mental instability with its tendency to see "visions" still persisted. Dr. Sollier and Dr. Boissier conclude that it is dangerous for young or uneducated persons to attempt to train themselves for mediumship and that the dangers are especially great for women who attempt to do so.

THE ASSOCIATION OF TYPHOID FEVER AND TUBERCULOSIS.

THE *American Journal of the Medical Sciences* for May contains an important paper by Professor J. M. Anders on the Relation of Typhoid Fever and Tuberculosis. Typhoid fever and acute tuberculosis are rarely associated; more commonly typhoid fever develops in the course of chronic tuberculosis. When acute miliary tuberculosis and typhoid fever are concurrent the former is usually secondary to the latter, although an old tuberculous focus usually exists. Either there is active chronic tuberculosis or a latent encapsulated focus and under the influence of the typhoid fever the resisting powers of the tissues are lowered and the tuberculosis becomes acute and generalised. Further, rapid infection of the lungs with tubercle bacilli from without may occur in the course of typhoid fever and acute pneumonic phthisis result, the primary infection serving as a predisposing condition. When typhoid fever occurs in the subjects of arrested pulmonary tuberculosis and is complicated by broncho-pneumonia, the protecting capsule may be broken down and tubercle bacilli diffused. A patient suffering from chronic tuberculosis does not appear to be markedly disposed to typhoid fever, judging from the infrequency of the latter in conjunction with the former. Professor Anders has examined the post-mortem records of the Philadelphia, Johns Hopkins, and Episcopal hospitals in the last ten years and he finds that out of 249 necropsies in cases of typhoid fever old tuberculous lesions were present in only 19 (7·6 per cent.) and acute tuberculosis in four (1·6 per cent.). Cases of associated typhoid and tuberculous infection may present great difficulties of diagnosis. The latter disease may predominate and prevent the Widal reaction from appearing or cause it to disappear, just as pneumonia or appendicitis may. In most of the cases of combined typhoid and tuberculous infection the diagnosis has been made only at the necropsy. The temperature curve closely resembles that typical of typhoid fever, at all events until the typhoid process has spent its main force. Characteristic typhoid symptoms usually manifest themselves before those of tuberculosis. This is particularly true of cases in which the tuberculous process is of a pneumonic type. Here the diagnosis cannot usually be completed until tubercle bacilli are found in the sputum, that is until after a lapse of weeks. The following are two of the cases reported by Professor Anders. A man, aged 28 years, was admitted to hospital on Oct. 29th, 1903. The temperature was 102° F. and two rose spots were seen. Scattered over the whole body were bluish spots, the "taches bleuâtres" of French writers. The posterior cervical glands were enlarged. Numerous moist râles were heard over both lungs, especially at the right base, where the breathing was broncho-vesicular. The spleen was enlarged, the abdomen was somewhat tympanitic, and there was gurgling on pressure in the right iliac region. On Nov. 4th there were an abundant typhoid eruption and signs of resolution in the right lung. On the 12th there were signs of broncho-pneumonic consolidation at the left base and at the angle of the right scapula. The sputum was tenacious and hæmorrhagic and contained staphylococci and streptococci but no tubercle bacilli. The urine gave the signs of acute hæmorrhagic nephritis. On the 15th numerous examinations of the sputum yielded the same result. The Widal reaction was obtained several times. On Dec. 11th there were in the left interscapular space signs of a small cavity. On the following day numerous tubercle bacilli were found in the sputum. Subsequently the temperature became hectic. In the second case the patient was a man, aged 22 years, who was admitted to hospital on April 18th, 1899. The temperature ranged from 102° to 103·2° F., the spleen was enlarged, the abdomen was tympanitic, and there was diarrhœa. Widal's reaction was obtained. Tubercle bacilli were found in the sputum after several failures. The patient grew worse and died on May 21st. The necropsy showed intestinal perforations with adhesions to the omentum. Typhoid ulcers were found on Peyer's patches and in the large intestine. In the left lung were a few tubercles scattered through the apex. The middle lobe of the right lung was consolidated and showed many tubercles.

REX v. BREEZE.

IN this case which was heard at the Durham Assizes on Saturday, July 16th, a prisoner who was indicted for murder took the somewhat unusual course of pleading guilty to the charge. A jury was then sworn to try whether he was "fit to plead" or not. Mr. P. F. Gilbert, medical officer of the Durham Prison, said that he had had the prisoner under observation since July 6th, when the crime was committed and that in his view the present condition of the prisoner was such that he was quite able to plead and to take his trial in the ordinary way. In these circumstances the jury found that Breeze was fit to plead and the plea of guilty having been tendered, sentence of death was pronounced. Mr. Justice Grantham intimated that the mental condition of the prisoner at the time when the crime was committed would be inquired into by the Home Office. Although the fact was not stated in open court it appears that the medical officer was of opinion that the prisoner was afflicted with "impulsive insanity" and that he was not responsible for his actions. In these circumstances it is interesting to consider the history of the case. The prisoner was a pitman, aged 21 years. He was an excellent football player, a total abstainer, and a non-smoker. There was no lunacy in his family but his brothers and sisters were of a neurotic temperament. About three years ago he became acquainted with a man named Chisholm who also worked as a pitman. Early in the present year the prisoner went to board with Chisholm and his wife, he having developed a strong attachment to the woman. For about three weeks prior to July 6th the prisoner was in the habit of sleeping on a couch in the room where Chisholm slept with his wife. There had been no disputes between any of the parties and Chisholm had made no sign of jealousy. On the morning of July 6th, after Chisholm had left for hi-

work, Mrs. Chisholm told the prisoner that her husband was beginning to be jealous and said, "I wish I was dead." The prisoner said, "Shall I kill you?" She said, "I don't mind, but you have not the heart to do it." He then strangled her and a few hours later gave himself up to a police-officer and handed in a written confession which clearly showed that he quite understood the nature of the act which he had committed. His motive apparently was that the deceased was the wife of another man. There was no sign that he had committed any other act of violence upon the deceased. Ever since the date of the crime he expressed himself well satisfied with what he had done. He also stated that he wished to be hanged and that he did not wish to go to penal servitude; that he was a murderer and that he would be glad to put the rope round his own neck. He also stated many times that he would kill anyone who tried to get him reprieved. One other circumstance is worthy of notice. The prisoner always had a taste for melodrama and he was a constant reader of a publication known as "Famous Crimes, Past and Present," a recent edition of which contains pictures of an execution and the report of a trial of a well-known criminal. So far as we can ascertain these are the substantial facts which would have to be considered in deciding whether the prisoner was insane in the eye of the law.

POST-GRADUATE COURSES IN PARIS.

WE are informed that a series of post-graduate courses and practical demonstrations will be delivered at the Hôtel des Sociétés Savantes, Rue Serpente, and in several hospital services at Paris from Monday, Sept. 19th, to Saturday, Oct. 1st. The courses delivered at the Hôtel des Sociétés Savantes will be as follows:—Bacteriology, Dr. Veillon; treatment of syphilis and diseases of the skin, Dr. Leredde; massage, Dr. Marchais; diseases of the urinary organs, Dr. Noguès; electrotherapeutics, Dr. Zimmern; midwifery, Dr. Dubrisay; nervous diseases, Dr. Sollier; applied therapeutics, Dr. Landowski; and hygiene and therapeutics of children, Dr. Lesné. The courses delivered in the various hospital services will be as follows:—Gynæcology, Dr. Arrou (Hôpital St. Antoine); practical surgery, Dr. Souligoux (Hôpital Lariboisière); auscultation, Dr. Caussade (Hôpital Tenon); diseases of the stomach, Dr. Soupault (Hôpital Bichat); oto-rhino-laryngology, Dr. Laurens (Hôpital Bichat); and ophthalmology, Dr. Morax (Hôpital Lariboisière). The fee for each course (which will include about from eight to ten lessons) will be 20 francs, payable in advance. Detailed programmes will be sent on request. For all further information application should be made to Dr. Marchais, Hôtel des Sociétés Savantes, Rue Serpente, Paris.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.

THE annual general meeting of this society was held on July 15th and from the report it appears to have made great progress since it was founded in 1900. Commencing with about 100 members it has gradually increased its membership to over 300 and its financial position has become firmly secured. During the last session £346 7*s*. were collected in subscriptions and it has invested funds amounting to £228 13*s*. 6*d*. in Consols and an endowed lectureship of £20 per annum. After paying for a well-bound and profusely illustrated volume of reports and defraying all expenses for the session there remains in the treasurer's hands a balance of £149 9*s*. 10*d*. to be carried forward. Every children's hospital in London and the majority of those in the provinces are represented among its members and in provincial members it is exceedingly strong. One meeting every year is held in some provincial town and since the society was established meetings have been held in Liverpool, Manchester, Brighton, and Clifton and each of these has been a great success. After the general meeting Mr. R. Clement Lucas delivered the first Wightman lecture on the Hereditary Bias and Early Environment in their Relation to the Diseases and Defects of Children. The members afterwards dined together in the evening at the Hotel Cecil.

THE PROSTITUTION OF THE POST OFFICE.

WE have upon many previous occasions called attention to the way in which His Majesty's Postmaster-General aids all kinds of swindlers, purveyors of indecent literature, betting touts, moneylenders, lottery keepers, and other objectionable members of society in puffing their wares. On several occasions, too, the Postmaster-General has expressed his sorrow at being unable to do anything to stay the annoyance and the police have also done the same. The official worm has at length turned, owing to "Members of Parliament and gentlemen in high positions" having been annoyed by the receipt of circulars recommending what are euphemistically called "indiarubber goods," which circulars were distributed through the post. These circulars were sent out by a man named H. Berdot of Stafford-street, Bond-street, and Mr. H. Muskett prosecuted at Marlborough-street police court on July 16th on behalf of the police. The particular case upon which the prosecution relied was the sending of the circulars on two occasions to a gentleman named Mr. E. Williams. Mr. Kennedy convicted the defendant and fined him in all £27 7*s*. We now ask the police authorities to proceed against "Dr." Bell who has been for many years in the habit of sending filthy little pamphlets through the post. If a prosecution could be carried out successfully in the case of Berdot we see no reason why Bell should not be prosecuted also.

MEASURES AGAINST SYPHILIS IN ROUMANIA.

THERE has been of late years so marked an increase in the prevalence of syphilis in the villages and rural districts of Roumania that both the medical profession and the Government have shown a disposition to adopt special measures in order to check this great evil. Actuated by the idea that this is a shameful disease many peasants dare not venture to consult the regular medical practitioners and so they resort to various quacks. There are notably a certain number of old women who have made a speciality of treating these diseases. Strange to say, they enjoy a certain popularity because they employ and use the term which in the Roumanian language is analogous to quicksilver. The medical men, on the other hand, use a word corresponding with mercury. The peasant imagines that there is a difference and goes to the old women because he thinks that quicksilver is so much better than mercury. The sanitary council of Roumania has consequently published a number of small pamphlets for distribution among the people which explain the true nature of the disease, its dangers, and how it should be treated. As an example of the gravity of the question, statistics of all the cases of syphilis in the department of Ramme Sarat have been taken since the year 1896. Out of a population of 125,000 persons there were 1361 cases of syphilis. Among these patients 38 were infants and 185 were children under 12 years of age. Therefore, 223 patients, or about one out of six cases, were children. The 1361 cases are subdivided into 324 primary, 913 secondary, and 124 tertiary cases. A great amount of infantile mortality is attributed to syphilis and in this Roumanian department there were from 1897 to 1903 as many as 324 stillbirths, 5727 deaths of infants under four weeks old, and 6258 deaths of infants aged from one month to one year. This gives a total of

12,309 out of 36,370 births. Thus, including the still-born, the mortality up to the age of one year was equal to one-third of the births. In the department of Ilfor similar statistics have been collected and the results are about the same. As there are no prostitutes in these rural districts the mischief is attributed to the soldiers when they return after accomplishing their military service. Consequently it is now the rule not to allow any soldier to leave his regiment either for a temporary holiday or because his term of service is finished without first examining him carefully. This practical measure might be imitated with advantage by other countries. It is well known that soldiers are more likely to be contaminated with this disease than are other sections of the community. If a soldier at the moment of being discharged from service falls ill with cholera, plague, small-pox, or any other such disease he is sent to the hospital and not restored to the general community till he is cured and all danger of contamination is over. Why should not the same measure be enforced in regard to syphilis? The Roumanian Government, in any case, has determined to act on this principle. Some of the Roumanian medical men go much further than this. They advocate that marriages should not be allowed unless health certificates are produced. However imperfectly such a rule or custom was enforced it would in any case make people think more seriously of the question of health in connexion with matrimony.

FACTORY GIRLS' COUNTRY HOLIDAY FUND.

THIS is the season when townspeople most appreciate the benefits of a visit to the country or the seaside, and various schemes have been devised for the purpose of enabling the poorer class of workers to share in the advantages of such relaxation and change of scene. The Factory Girls' Country Holiday Fund is devoted to the excellent purpose of helping factory girls who are employed in London throughout the year to have a fortnight in the country during the period when their work is slack. Some part of the expenses is borne by the girls themselves but there is always a considerable deficit to meet which the committee of the fund appeals for contributions. Nearly 1500 girls have already been sent into the country this season and numerous applications are being received daily. It is feared, however, that without further immediate aid from the public it will be impossible to make similar arrangements for the girls who can only get away in August. The patrons of the fund include H.R.H. Princess Christian, the Bishop of London, the Bishop of Rochester, and their suffragans. The chairman of the committe is the Rev. E. Canney, St. Peter's Rectory. Cheques may be sent to the honorary secretary, Miss Paget, or the honorary treasurer, Mrs. Bedford, St. Peter's Rectory, Saffron-hill, London, E.C.

DEATH OF MR. A. H. ALLEN, F.I.C., F.C.S.

THE profession of analytical chemistry has sustained a great loss in the death of Mr. A. H. Allen, public analyst for the West Riding of Yorkshire, the city of Sheffield, and other places. A most indefatigable worker in all that pertained to the practice of analytical chemistry, Mr. Allen has enriched literature with an important and valuable number of scientific contributions which were entirely the result of his experience as a patient and painstaking worker in the laboratory. He was at one time lecturer on chemistry and physics in the Sheffield School of Medicine and much of his work related to chemico-medical subjects. He was author of a work on the Chemistry of Urine and papers emanating from him have been published from time to time in the columns of THE LANCET in which he drew attention to improved methods of analysis of urine. His *magnum opus* was his well-known work on Commercial Organic Analysis which was published in eight volumes. This is, perhaps, the most important addition that has been made to the literature of analytical processes during recent years and must have entailed considerable labour and practical acquaintance with the many subjects therein dealt with. He was a skilled analyst and never hesitated to carry out original work when he found accurate analytical processes were wanting. Amongst his latest contributions in this direction were some original investigations on the chemistry of whisky in the course of which he was led to suggest a practical scheme for the determination of amylic alcohol in spirits. He gave valuable evidence before a Parliamentary Committee upon the subject in 1891. Mr. Allen was amongst the original members of the Institute of Chemistry and was at one time President of the Society of Public Analysts.

EXPERIMENTS ON THE COOKING OF MEAT.

THE United States Department of Agriculture has published an interesting report[1] by Professor Grindley and Mr. Mojonnier on a series of experiments initiated to determine the losses that occur during the cooking of meat. The methods of cooking employed were boiling, roasting, sautéing, and pan-broiling (i.e., cooking in a frying pan without fat). The main conclusions arrived at are (1) that pan-broiling is the form of cooking that causes the least loss of nutritive material; (2) that the chief loss in weight during boiling, sautéing, and pan-broiling is due to removal of water, and in roasting to the removal both of water and of fat; (3) in all the forms of cooking the losses increase in proportion to the degree of cooking; and (4) that when meat is cooked in water at 80°–85° C. it makes little difference whether the meat is placed in cold or hot water to commence with. Beef cooked in water loses from 3·25 to 12·7 per cent. of nitrogenous matter, from 0·6 to 37·4 per cent. of the fat, and from 20 to 67·4 per cent. of the salts; that is, these amounts pass into the broth. When meats are roasted from 0·25 to 4·5 per cent. of the nitrogenous matter, from 4·5 to 57·5 per cent. of the fat, and from 2·5 to 27·2 per cent of the salts were found in the dripping. Beef which had been used for the preparation of beef-tea was found to have lost comparatively little in nutritive value, though much of the flavouring material had been removed. The nature of the nitrogenous constituents and other substances has not yet been fully determined, though much work has been devoted to their elucidation.

THE SCANDALS AT THE HORTON LUNATIC ASYLUM.

ON Tuesday last a carman, two store clerks, and a foreman butcher employed by the London County Council at the Horton Asylum, Epsom, were tried at the Surrey Assizes for conspiracy to steal the goods in their charge and were sentenced to various terms of imprisonment. The evidence for the prosecution, the most damaging of which was supplied by one of the accused when before the police-court, showed that the accounts of the asylum were kept anyhow—perhaps we should say nohow—and that the man in charge of the vast stores of the asylum was only in receipt of a small salary. The jury, in finding all the prisoners guilty, added that they were of opinion that the Horton Asylum had been grossly mismanaged and that they considered that the conduct of those responsible for its administration should be made the subject of immediate and serious inquiry. Mr. Justice Darling, in passing sentence, endorsed the jury's expression of opinion, pointing out that "the means to do ill deeds made ill deeds done." We trust that the views of the jury will have a practical outcome. Dishonest persons

[1] Experiments on Losses in Cooking Meats, 1900–1903, United States Department of Agriculture, Bulletin No. 141. Washington, 1904.

must go to prison and we waste no sympathy on the convicts who, whatever their chances of peculation, must have known that they were doing wrong. But we think that those whose slackness or foolishness has conduced to a serious defrauding of the taxpayer should be made to do public penance.

POST-GRADUATE COURSES IN LIVERPOOL.

IT is announced that two successive post-graduate courses will be held in Liverpool during the month of August. The first will be delivered in the Thompson-Yates and Johnston Laboratories of the University of Liverpool and will continue from August 2nd to 13th. The practical work will deal with various subjects in hæmatology, bacteriology, parasitology, bio-chemistry, morbid anatomy and general pathology, electrical methods of treatment, and ophthalmoscopy. A series of ten lectures on various allied topics will form part of the course. From August 16th to 27th a combined clinical course will be given by the teachers of the general and special hospitals of Liverpool recognised by the University for such teaching. The subjects taken on the first day will be renal diseases and urinary analysis (by Dr. T. R. Bradshaw at the Royal Infirmary), intravesical separation of the urine from the two kidneys (by Mr. R. A. Bickersteth at the Royal Infirmary), and superficial eye affections (by Mr. C. G. Lee at the Eye and Ear Infirmary). The fee for each course will be £5 5s. Inquiries and applications regarding the courses should be addressed not later than July 31st to Professor B. Moore, Dean of the Faculty of Medicine, University of Liverpool.

THE medical officer of health of the Cape Colony states that for the week ending June 25th the state of plague in the colony was as follows. At Port Elizabeth 1 case of plague was recorded—namely, a coloured male, discovered after death on June 20th. One cat, 140 rats (27 found dead), and 185 mice (13 found dead) were bacteriologically examined during the week, of which 20 rats, 12 mice, and the cat proved to be plague-infected. At other places no case of plague in man or animals was discovered. In the harbour board area and shipping in harbour 239 rodents were examined and in the Cape Town municipal area 298, none of which was affected with plague. For the week ending July 16th there was no change in the return. As regards the Mauritius a telegram from the Acting-Governor received at the Colonial Office on July 15th states that for the week ending July 14th there were 2 fatal cases of bubonic plague.

Dr. J. A. Turner, who has been for three and a half years executive health officer of the public health department of the municipality of Bombay, has been granted as from April 1st, 1904, the maximum salary allowed by the legislature—namely, Rs. 2000 per mensem.

Major R. Caldwell's work on "Prevention of Disease in Armies in the Field," which was reviewed in our issue of July 9th, has been awarded the Parkes Memorial Prize, consisting of 75 guineas and a bronze medal.

ASSOCIATION OF MEDICAL DIPLOMATES OF SCOTLAND.—An association under the above title has been formed to promote the closer union—socially and professionally—of those holding the diplomas of the Royal Colleges of Physicians and Surgeons of Edinburgh and of the Faculty of Physicians and Surgeons of Glasgow. The object of the association is to endeavour to remove certain disadvantages under which the holders of diplomas labour, more especially in respect of certain public appointments. Steps have been taken to cause a pattern to be prepared of a gown to be worn by licentiates and the authorities are to be petitioned to recognise this habiliment. Mr. M. E. Leicester, 16, Kildare-terrace, Bayswater, is the secretary.

Looking Back.

FROM

THE LANCET, *SATURDAY*, JULY 22, 1826.

SKETCHES OF THE SURGICAL PROFESSION IN IRELAND.[1]

No. XI.

MERCER'S HOSPITAL.

ON the consulting "tripod" sat, at the time, a diminutive personage of a very curious aspect. His dress of gaudy tint had evidently seen some service, and manifested as little familiarity with the brush as his matted locks, plumed with the down of the pillow, did with the application of the rack-comb. His countenance was tinged with such an intensely chlorotic hue, and contracted into such a medalic pettiness of circumference, that it might have been mistaken for a bass-relief sculptered on a gall-stone. His eye stared through a halo of misty light, as rayless as the moon through an autumnal haze, and his beard, which was black, and of more than one day's growth, stood out from his chin in grisly luxuriance, as if imploring the assistance of some charitable barber. His lips were kept by compression alone, from expanding into a perpetual yawn; and his whole features partook of that dreamy expression which the face assumes when the senses, half awakened by the morning-beam, struggled to shake off the lethargy of sleep. I was startled, I confess, by such an apparition, and almost believed that the genius of the "Sheriff's Prison" had come to play the doctor in mockery of my notions of the dignity of that character. The wandering of my fancy was soon recalled to reality, by the entrance of a gigantic hawker of fish; her mouth, in the effort to say something, spasmodically thrown open like the jaws of a gasping cod. Are you costive? exclaims the little Pæon, in a husky baratone, as if aroused by her formidable appearance: "Och! your honour! in troth I don't well know what is't that ails me," the hem of the respondent's nether garment touching the boards in a profound courtesy: "How many motions, then, have you in the day, Ma'am?" with increased emphasis, and all eyes now turned to the rencontre: "An that's beyant countin, honey, for am'nt I runnin up and down the town de live long day wid dat ould basket dere on my head." "Why you confounded old witch, I want to know how often do you go to stool?" "Jist as often as I can, jewel, and dat's not very often, ony now and den at a jintleman's hall door or de likes, whilst shellin de pays, or opinin de oysthurs." "Curse your peas and oysters! tell me how often are your bowels open!" "Little enow, docthur dear, bud aboud a couple a hundred or dere aways, since de riz de price of de Carlingfords on de creturs, God help huz." "Out of my sight, yourself and your infernal oysters, I'm talking about opening your bowels." "God's blud-an-ounds, what's this for! Arrah! patience, a rich-ma-chree, an don't be angry wid a poor cretur of my sort, for sure if it's dem you'd be talking aboud, it's just tree days to-morrow since de war opined, wid de blessing of God."

The gravity of philosophy itself could scarcely resist the influence of the spectacle, and I added my mite of laughter to the general chorus, while the enraged Pæon was dismissing the confounded nymph of Ringsend, with a pill or a mixture, quite regardless of the "Key-Letters" of Paris. While this storm of pleasantry was at its height, it was curious to observe how the sound of merriment subsided into the silence of respect for talent and dignity, in the approach of that master-spirit of the scene, the late President of the College, Alexander Reid, I had almost said "Alexander the Great;" for saving the difference between holding empire over the satraps of a hospital, and the princes of the earth, I perceived that the plenitude of his sovereignty in his own sphere was as perfect as that of his imperial namesake.

[1] By "Erinensis." An excerpt only is transcribed.

THE SOCIAL AND ECONOMIC POSITION OF MEDICAL PRACTICE ON THE CONTINENT.

WITH the return of each October our columns show that the addresses delivered at the opening of the medical schools give much good advice to the rising generation of practitioners and seldom fail to remind them that they must very often in the nature of things undertake heavy responsibilities, for not only the health but the life of their fellow creatures must sometimes depend on the soundness of their judgment and their surgical dexterity. These discourses form also the prelude to an education which in all countries is laborious and relatively expensive. The young practitioner congratulating himself on the possession of a diploma after several years of study has now to look for some field in which his knowledge may be usefully employed. He soon discovers that desirable appointments are difficult to obtain, that the profession is decidedly overcrowded, and that in the larger towns success may be long in coming. There is no need for us to go into details as every aspect presented by the subject in this country has become familiar to our readers. It has, however, seemed to us that it might be useful to collect some information as to the existence or prevalence of similar difficulties among our continental brethren and we have therefore submitted a few queries to friends in some continental countries—principally in France, Germany, and Austria—taking care to approach only those who were trustworthy and well informed. In the social, legal, and official aspects of medical practice there are many differences between our usages and those of other nations, as, for instance, in the medical curriculum, in the manner of entering the profession, in the management of hospitals, in the obtaining and holding of hospital appointments, in the system of poor relief, in medical attendance on the wage-earning classes, and so forth. The queries themselves may be summed up as follows:—

1. Is there much dissatisfaction with regard to the social status and the pecuniary returns of the doctor's life?

2. Is there a sharp line drawn between general or family practitioners and hospital physicians and operating surgeons?

3. Is the medical profession overcrowded? Is it known what is the proportion of population to medical men? (In England it is 1 to 1200.)

4. Are medical men forced to do work at contract prices? That is, do combinations of laymen pay medical men a settled salary raised by capitation fee for his service to each and all of them? If so, is the medical man's whole time usually bought and is the price paid a fair one?

5. Is there any legislation against quackery? Can a man call himself a "doctor" when he has no medical diploma?

6. Are hospitals much resorted to by patients who could pay proper fees to private medical men?

As will appear from the sequel the replies which have up to the present time reached us in response to these queries show with singular unanimity that most, if not all, the medical grievances known in this country have their counterparts among the leading European nations. We propose in the first place to lay before our readers the view supplied from Austria and to deal more concisely with the facts relating to Germany, chiefly because the letters of our Berlin correspondent make frequent reference to topics of this nature.

AUSTRIA.

1. There is unquestionably very much dissatisfaction with regard to the pecuniary returns of the medical profession in Austria. The social status of the profession is perhaps a little better than in England, chiefly because on the continent, and especially in Austria and in Germany, all bearers of any title receive more consideration both from society and from the lower classes. The financial position of the profession, however, cannot be said to be good. The young men who form the resident staff of the hospitals receive only from 400 to 700 florins yearly (without board in many hospitals). Besides them there is a great number of practitioners, well educated men, who even in such large towns as Vienna and Prague do not earn 1000 or even 600 florins yearly (ten florins are equal to 17s.). There are few practitioners even in Vienna earning more than 10,000 florins yearly. Of the 2500 medical men in Vienna, among whom are included so many professors and "docenten," there are only from 40 to 60 who receive over 10,000 florins yearly and there are only ten among them making over 50,000 florins (three of them—one physician and two surgeons—getting 100,000 florins a year or a little more or less). The causes of the prevailing low incomes are the following. The Austrian population is far from wealthy. Many of the better class of people are in the service of the State and the State does not pay high salaries to its officials. As a well-known Vienna physician usually remarks in discussions on local medical social problems, "in Austria every second man is either an official or a servant of the State." ("In Oesterreich ist jeder zweite Mensch entweder ein Beamter oder wenigstens ein Amtsdiener.") At the same time Austria has, in contradistinction to Germany, England, and even to Italy, only few large towns with a population of over 10,000 persons. There are only five towns with 100,000 or more inhabitants (Vienna, Prague, Trieste, Gratz, and Brunn) and therefore the medical men cannot spread themselves among densely populated towns but are overcrowded in few places, as the younger men after their experience of university life do not like to settle in country districts. This tendency is partly due to the circumstance that the majority of medical students are natives of the towns, not of the villages. Medical fees in Austria are relatively low. In towns like Vienna the upper classes as a rule pay two florins for a visit but the middle classes pay often only one florin and in the suburban districts the fees are even less. Even the fees of the consulting physicians and surgeons and of the specialists are comparatively low. The Vienna professors, as a rule, see patients in their consulting rooms for five florins and visit at the patient's house for ten florins and there are many "docenten" who visit patients for even three florins. Higher fees than the above are exceptional. It is also unsatisfactory that many patients do not make prompt payments and the practitioner has to wait until the end of the year for his small fees. Billroth once said with regard to medical practice in Austria: "Unanständige Patienten zahlen nicht und anständige Patienten bleiben das Honorar schuldig." (Dishonest patients never pay and honest patients defer payment.) In chronic cases especially when the attendance is long continued it is often very difficult for practitioners to get their fees paid in full. On the other hand, for the sake of keeping up their social position practitioners are compelled to spend a good deal of their income on externals. When a young man has taken his diploma he has generally great difficulty in establishing a practice. The English system of buying and selling practices or of medical partnerships is almost unknown in Austria and busy practitioners do not keep assistants as is done in England. Even the opportunity of acting as locum-tenent for a short time while the principal is taking a holiday is extremely rare in Austria. All kinds of advertisements are, as in England, prohibited by the medical code. The majority of young medical men therefore compete for appointments offered by sick clubs (Krankenkassen), by the State, or by the different local authorities, none of which appointments are well paid. In fact, nearly 50 per cent. of all the medical men (there are now nearly 18,000 in all) hold some public appointment, the majority in the rural districts as so-called "District-Aerzte" of the different provinces who receive from the respective diets annual salaries of 400 or 600 florins but are permitted to engage in general practice. Naturally there is less opportunity for such public appointments in the large towns and in Vienna, where there are 2500 medical men, only about 400 have public appointments.

2. A distinction is made between the general practitioners, the specialists, and the hospital physicians and professors (the last-named being the consulting physicians and surgeons) and, as a rule, a sharp line is drawn between the general practitioners and the others as the latter (the specialists and the consulting physicians and surgeons) decline to undertake cases without the consent of the attending practitioner and also charge higher fees, a practice which is even acknowledged by the law courts. The system of family practitioners paid annually without regard to the actual work done is now not so much in vogue as it formerly was in Austria and still is in Germany. In most cases where it exists the sum paid to the practitioners is very small; appointments of 100 florins yearly for a family comprising often more than four persons are not infrequent in Vienna.

Families paying 400 florins or more yearly are not very frequent even in Vienna.

3. The profession is certainly overcrowded in the large towns and in most of the watering places (in Vienna there are 2500 practitioners to 1,600,000 inhabitants) but on the other hand there are rural districts of great extent which have few medical men. There are fewer practitioners than in England. They do not much exceed 18,000, but an even distribution of them according to the wants of the population is rendered almost impossible in Austria by the multiplicity of languages and nationalities. It must also be remembered that sanitation has been highly improved during the last few years just at the time when the increase in the number of practitioners was proportionately greater than the increase in the population. The number of cases of infectious disease giving a good deal of permanent work has therefore been constantly decreasing. Typhoid fever, for instance, is a disease in which the attending practitioners may make from one to two visits daily for six weeks but there are comparatively few cases of that disease now in Vienna. On the other hand, practitioners are rarely inclined to treat chronic cases but prefer to send them when the patients are wealthy to watering places, climatic health resorts, and hydropathic establishments. These chronic cases ought, however, to provide a good deal of medical work which is now lost to the profession, partly on account of the fact that medical students are not taught at the schools how to treat and how to observe chronic cases, and this lack of knowledge among the profession with regard to chronic cases encourages practice by quacks.

4. Many practitioners of limited means find themselves under the necessity of attending patients at contract prices in the service of either friendly societies or sick clubs (Krankenkassen). Most of the Krankenkassen pay the practitioners in their employment an annual salary which varies according to the number of members composing the Krankenkasse. One florin for each member on the books may be taken as an average payment; the amount is seldom more than this and it may be as low as half a florin. Under this system it frequently happens that the remuneration of practitioners who have many patients to attend works out at five kreutzers (one penny) for a visit. Only the specialists appointed by the Krankenkassen in the larger towns get a higher salary. The practitioners of the Krankenkassen do the principal part of their work in their consulting rooms and in most Kassen they have to see from 30 to 50 patients daily in the course of one or two hours. Such celerity does not always meet with the approval of the patients and disputes between patients, medical officers, and the committees of the Krankenkassen are of frequent occurrence. There are no appointments in Austria except a few private ones where the whole time of the practitioner is really bought. The sick clubs do not restrict their medical officers to club practice only. There is a constant effort to get the fees increased and to introduce the system of the Freie Aerzte Wahl (free selection of practitioners) which is in operation at some places in Germany. On the other hand, the various medical councils and societies try to prevent the formation of new Krankenkassen which are from time to time proposed by the State. Curiously enough, there is a strong feeling among the medical men in Austria in favour of the suggested "Verstaatlichung der Aerzte," which means that all practitioners should become State officials and should be paid by the State.

5. According to the Austrian law medical quackery is a punishable offence but in actual practice it is very difficult to have a quack really punished by the courts of justice, for it must be proved that he both asked for and received payment for his services. The number of quacks in Austria is very small but they abound in Germany and the more notorious among the German quacks attract many of the wealthy Austrian patients. Of late years so-called "Naturheilvereine" have come into existence and in some of them a kind of charlatanism, veiled under the name of hydropathic or vegetarian treatment, is carried on by legally qualified men possessing authentic diplomas. Only men holding a diploma of an Austrian university are permitted to call themselves "doctors."

6. In exceptional cases well-to-do persons are admitted into hospitals as in-patients. More often they apply there for advice as out-patients and just now there is a movement intended to exclude them from the dispensary stations in the Austrian towns. It must be remembered that most of the hospitals are not private charities as in England but are supported and controlled by the public authorities such as the State, the diets, and the municipalities.

GERMANY.

The replies received from Germany in response to our queries show that there is general dissatisfaction with the pecuniary returns of medical practice, that hospitals are much resorted to by patients who are able to pay proper fees to medical men, and that there is no legislation to prevent the treatment of disease by quacks, provided that they do not assume titles identical with, or closely similar to, those of medical men legally qualified to practise in Germany. A sharp line is drawn between general or family practitioners on the one hand and hospital physicians and operating surgeons on the other. The profession is greatly overcrowded, especially in the large towns. In Germany there is on the average one medical man to 1934 of the population, while in Gumbinnen, a town in East Prussia near the Russian frontier, the proportion is 1 to 4126. In Berlin the proportion is 1 to 766 and in Munich it is 1 to 608.

With reference to medical work done at contract prices it is necessary to explain that the conditions of medical practice among the middle or lower middle classes have undergone great changes since 1883 when a law (Krankenkassen-Gesetz) was passed compelling workmen to join clubs which are maintained by the contributions partly of the employers and partly of the workmen themselves. These clubs are obliged to provide the members with free medical attendance and medicine and to pay a weekly sum if illness incapacitates them for work. The committees of these clubs, in order to pay as little as possible for the treatment of their members, at first appointed a limited number of medical men and gave them a fixed annual salary on the condition that they attended the members free of charge. This system had two disadvantages: (1) for the medical men that only a few could obtain these appointments and (2) for the club members that they could not choose the medical man they liked but might have to apply to a practitioner in whom they perhaps had little confidence. Many efforts were made to obtain a more equal division of the work and about 1892 a new system was adopted by some of the most important clubs. This system was that the clubs paid a certain amount (three marks a year) for every member and that the total sum was distributed among the medical men according to the number of attendances they had given. All the medical men who were willing to treat club patients on these terms formed the association called the "Free Choice Society" (Freie Aerzte Wahl), into which every medical man could be admitted. At the end of 1894 more than 1100 Berlin practitioners belonged to the society. By this agreement club practice was reopened to all the members of the profession. The patients were also very satisfied with the reform and when more and more clubs adhered to the "free choice movement" it was expected that the old system would soon be entirely abolished. To the general surprise, the largest of these clubs (that of the unskilled workmen) declared at the end of 1894 that it would no longer admit every medical man without distinction to club practice. It was asserted that many of the younger practitioners, to gain the favour of the patients, had ordered too many and too expensive medicines, that they had often extended the treatment too long, and that they were incapable of distinguishing the really sick from those who only feigned illness in order to be relieved by the club. These different things were said to have brought the clubs to the verge of bankruptcy. A still greater injury was done to the "free choice system" when certain municipal authorities (that of Berlin included) who had legal control over the clubs ordered them to revert to the appointment of a limited number of medical officers. Several did so and elected 150 but still adhered to the system of paying not a fixed salary but a sum according to the number of consultations. The importance of the club practice question will be obvious from the fact that in some of the working-class quarters of a town nearly 90 per cent. of the male and a large proportion of the female population belong to clubs and the great scale on which the clubs carry on their operations is shown by the official publications issued by the Imperial Statistical Office. There were 22,477 sick clubs under the workmen's insurance laws in 1897, against 22,011 in 1896 and 21,588 in 1892. The number of members was 8,377,319; the number of patients was 2,964,937. The income of the clubs was 16,781,000 marks (£839,000); the expenses were 13,394,000 marks

(£669,700), of which 12,049,000 marks (£602,450) were paid for treatment of patients in hospitals or by medical officers for medicines and bandages and for the maintenance of the patients and their families, the rest being outlay for club premises, salaries, and other expenses of management.

(To be continued.)

MEDICINE AND THE LAW.

The Liability of Nursing Associations for the Negligence of their Nurses.

In Hall and another *v.* Lees and others,[1] the plaintiffs, husband and wife, sued the committee of the Oldham Nursing Association for compensation for injuries caused to the female plaintiff by the negligence of a nurse engaged by her from the defendants. The jury found that there was negligence and that the defendant association was liable for the negligent acts of its nurses on the ground that they were its "servants." The Court of Appeal has now decided that the rules of the Nursing Association did not show the nurses supplied by it to be its servants so as to make it liable for acts done by them in the performance of their duties towards patients to whom the association supplied them. The case is an important one for nursing organisations, many of which no doubt do not differ materially in their relations towards their nurses from that of Oldham; it is also of importance to medical men who will have to be careful that they do not stand in the position of "masters" with regard to nurses whom they often engage for the benefit of their patients, and to whom they necessarily give directions for their patients' treatment. It is also of considerable importance to patients who may be injured through negligence on the part of their nurses. This importance, it need hardly be pointed out, lies in the fact that the nurse is frequently one whose pecuniary position is not such as will enable her to pay substantial damages to an injured person. The patient, therefore, will always direct his claim against the nursing agency or the medical man if there is any chance of making either of them liable. This is a hardship upon the nursing agency and upon the medical man on the one hand, but from the other point of view—that of the patient—it is to be observed that if the nurse has nothing to lose and if no one else is responsible for any want of care on her part the efficiency of nursing is not likely to be increased. It was mentioned after the delivery of the judgment of the Court of Appeal that the case might go to the House of Lords, so it is not desirable to comment upon it further.

When a Drain becomes a Sewer.

An interesting question for public health authorities in crowded urban districts was decided by the Divisional Court on July 11th, the point at issue being whether certain open channels conveying sink water from houses into the sewers were drains so as to make the owners of the houses liable for a nuisance caused by them, or were themselves sewers and so under the charge of the local authority. The magistrates had held the former view and had convicted the owners of the houses who accordingly appealed. The houses in question were arranged so as to form one end and part of two opposite sides of a court and a drain from each house carried the sink water from it into open channels running parallel to the pavement and to the sides of the court. These side channels conveyed the refuse water to the sewers and had been held by the magistrates to be "drains," causing a nuisance for which the owners of the houses were responsible, the contention for the appellants being that as they received the refuse of more than one house they were sewers. The answer to the question thus raised depended upon the interpretation to be put upon the definition of a drain in the Public Health Act, 1875, which lays down that for the purposes of the Act it is to be any "drain of and used for the drainage of one building only or premises within the same curtilage, and made merely for the purpose of communicating therefrom with a cesspool or other like receptacle for drainage, or with a sewer into which the drainage of two or more buildings or premises occupied by different persons is conveyed." The Lord Chief Justice in giving judgment expressed some regret at casting a fresh burden upon the local authority, but considered the Court to be bound by authorities cited. These included no case which would enable the learned judges to hold that a combination of houses in a court having to some extent common access and accommodation but occupied by different people were "within the same curtilage." The local authority, therefore, and not the owners of the houses were liable in respect of the channels in question. The decision appears to be in accordance with the language of the definition and if it casts a liability upon the ratepayers it should at all events insure the prompt abatement of nuisances of the kind complained of by the action of the local authority without recourse being had to the magistrate. Presumably drainage or sewerage, if it should be so termed, of the kind described is only to be found connected with old buildings. Newer tenements are compelled to be better provided.

[1] THE LANCET, Dec. 5th, 1903, p. 1611.

The Detention of Lunatics in Unlicensed Houses.

Attention was drawn recently by Mr. Troutbeck at an inquest held by him at Battersea to the circumstances in which the deceased, a woman aged 49 years, had been admitted to, and detained in, a nursing home when of unsound mind. The home was not one licensed for the reception of lunatics and neither the keeper of it nor the nurse provided by her had had any special training to fit them for the task which they allowed to be imposed upon them. The matter may become the subject of special inquiry and the facts were not fully gone into at the inquest as there was nothing to show that the treatment received by the deceased in the home either caused or accelerated her death. Some of the observations, however, of the coroner made to the jury in summing up may be quoted as explaining the policy of the legislature with regard to persons of unsound mind and the dangers likely to arise from a lax interpretation of the Lunacy Act. Mr. Troutbeck said that "he could well understand how reluctant the relatives were that the deceased should be certified as insane, but the whole policy of our law was to insure that when persons were insane they should be treated by authorised persons, and that it should not be possible for an insane person to be spirited away into an unauthorised place and attended by incompetent persons." The coroner went on to say that the county asylums such as the relatives of the deceased wished to avoid for her were admirably conducted institutions and to dwell upon the total want of education and experience admitted by the persons in the house to which she had been taken and he added that this "was not the kind of institution to which to intrust a person who was on the borderland—wavering; such a person required the utmost skill." With regard to the treatment of "borderland cases" there appears to be a prospect of the formalities now imposed by the law being modified, with the result that patients of this class will be treated suitably without the relatives being tempted to have recourse to such institutions as that described at Battersea.

ASYLUM REPORTS.

Down District Asylum (Annual Report for 1903).—The average number of patients resident during 1903 was 649, comprising 344 males and 305 females. The number of cases admitted during the year amounted to 139—viz., 77 males and 62 females. Of these 115 were first admissions. Mr. M. J. Nolan, the medical superintendent, states in his report that as the resident population of the asylum exceeded the legitimate limit of accommodation at the beginning of the year, only the most pressing cases were admitted pending the completion of the additional buildings. Thus there were but 139 cases admitted as against 184 in the previous year. The number of senile and feeble cases among the admissions tends to increase, adds Mr. Nolan, so that the death-rate is enhanced and the rate of recovery is reduced. "Until the usual normal admission rate recurs—that is to say, until the action of the committee in enlarging the institution to meet all the lunacy requirements of the district shall have been in operation for some considerable time, this condition will prevail." The number of cases discharged as recovered during the year amounted to 45—viz., 32 males and 13 females, or 6·9 per cent. of the average number resident. The deaths during the year amounted to 63, or 9·7 per cent. as calculated on

the same basis. Of the deaths two were due to cancer, three to epilepsy, four to general paralysis of the insane, 11 to dysentery, 14 to pulmonary and other forms of tuberculosis, 24 to cardiac disease, and the rest to other causes. Except for the prevalence of epidemic dysentery the health of the institution has been good. One female patient was attacked with enteric fever of a relapsing character and as the isolation hospital was occupied by patients suffering from dysentery this woman was isolated in a tent and nursed night and day for months until she made an entirely satisfactory recovery. The scale of pay for officers of the asylum has been increased all round and special long-service pay has been granted to senior members of the staff. The farm accounts showed a profit on the year's working of £745. As regards precaution against fire it was decided to erect alternative exits from the patients' quarters and to run a water main round the blocks which at present have no special water-supply in the event of fire. The internal appliances for fire extinguishing have been increased in number. Special precautions have been taken in connexion with the buildings in course of erection and water-mains with numerous external hydrants have been supplied to each block. On the completion of the new buildings the asylum will be able to accommodate 800 patients—viz., 400 males and 400 females. The Inspector of Lunatics states in his report that the condition of the asylum was very satisfactory generally, that the day-rooms and dormitories were scrupulously clean, that the wards were brightened by plants and objects of interest and were well supplied with papers, that the clothing and bedding were in excellent condition, and that the visit left pleasing impressions as to the great care, energy, and ability with which the asylum was managed.

Cumberland and Westmorland Asylum (Annual Report for 1903).—The average number of patients resident during the year was 707, comprising 364 males and 343 females. The admissions during the year amounted to 186—viz., 108 males and 78 females. Of these 136 were first admissions. Dr. W. F. Farquharson, the medical superintendent, states in his report that the admissions included 15 cases of congenital imbecility, six cases of epilepsy, six cases transferred from other asylums, and 14 patients over 70 years of age. "The great majority of the cases just enumerated were incurable and the admissions as a whole were of a very unfavourable nature." Five patients were in a very weak and exhausted state and several died shortly after admission. The mean age of the admissions was 44 years. Nine patients had actually attempted suicide before admission and 44 had suicidal tendencies. Hereditary predisposition was ascertained to exist in 34 per cent. of the admissions and 12·3 per cent. were traceable to alcoholic intemperance. The number of patients discharged as recovered during the year amounted to 65—viz., 35 males and 30 females, or 9·2 per cent. of the average number resident. The deaths during the year amounted to 64, or 9 per cent. as calculated on the same basis. Of the deaths two were due to general paralysis of the insane, three each to epilepsy and organic brain disease, four to pneumonia, five to senile decay, 15 to cardiac disease, 14 to pulmonary and other forms of tuberculosis, and the rest to other causes. The mean age at death was 54 years and 12 of those who died were over 70 years of age. A post-mortem examination was made on every patient who died. The general health of the asylum population has, on the whole, been good during the year and apart from a single case of scarlet fever (which made a good recovery) there has been complete immunity from epidemic or zymotic disease. Additional safeguards against fire have been provided for the male wards and the private patients' house. The Commissioners in Lunacy state in their report that all parts of the asylum were found to be in a favourable condition, that precautions against fire had been taken by the provision of additional hydrants, of a hose carriage and extra lengths of hose, and by laying on a new water-main to the separate houses for private patients known as Cumberland and Westmorland houses, that the patients in both divisions were quiet and orderly, and that the medical case-books and post-mortem records were very well kept. The weekly charge for the maintenance of patients has been 9*s.* 4*d.* per head. The committee of management states in its report that plans have been prepared for the extension of the asylum buildings, including a new house for the medical superintendent on account of his present one being absorbed in the proposed extensions, and that the plans have been submitted to, and approved by, the Commissioners in Lunacy and the Secretary of State, so that the work has been commenced during the year under review.

Norfolk County Asylum (Annual Report for 1903).—The average number of patients resident during the year was 902, comprising 398 males and 504 females. The admissions during the year amounted to 318—viz., 165 males and 153 females. Of these 281 were first admissions. Dr. David G. Thomson, the medical superintendent, states in his report that in 1902 only four male general paralytics were admitted, "whereas this year two women and 14 men were admitted suffering from this disease." In 12 of these cases a history of syphilis was obtained. 47 of the patients admitted were over 60 years of age, while 76 were suicidal. Hereditary predisposition to insanity was ascertained to exist in 53 per cent. of the cases and alcoholic intemperance was the cause of insanity in 21 per cent. The number of patients discharged as recovered during the year amounted to 88—viz., 40 males and 48 females, or 9·8 per cent. of the average number resident. The deaths during the year amounted to 106, or 11·7 per cent. as calculated on the same basis. Of the deaths three each were due to epilepsy and general paralysis of the insane, four to bronchitis, nine to cardiac disease, 15 to mania and melancholia, 22 to pulmonary and other forms of tuberculosis, 24 to senile decay, and the rest to other causes. The general health of the inmates has been good. There were three cases of colitis or dysentery, of which two proved fatal. A few cases of influenza and of erysipelas occurred sporadically without fatal results. A nurse contracted German measles and was isolated and treated till recovery took place. Two cases of suicide occurred during the year, no case having occurred for the previous 16 years, and in both cases inquests were held and the staff was exonerated from blame. Nine patients escaped during the year and of these eight were safely brought back. The exception was a man who, having eluded his pursuers in the dark, drowned himself in a pond where his body was found the next day. A new cemetery and mortuary chapel have been completed at a cost of £420. Extensive improvements have also been made as regards the water-supply and the sewage outflow. The Commissioners in Lunacy state in their report that the patients were found neatly clothed and appeared to be well cared for, that the day-rooms were comfortable in appearance, that the dormitories were clean and in good order, that the bedding was clean and in good condition, and that the medical case-books continued to be very well kept. The committee of management states in its report that additions to the male quarter of the asylum are in process of completion. They comprise additional wards for epileptic patients and for the sick and infirm, new workshops, a photographic studio, mess-rooms for the attendants, a bakery, and additions to the administrative offices. The sewage system has been brought thoroughly up to date and the effluent as it leaves the sewage works is a clear, odourless, and non-putrescible stream flowing into the Yare.

ANNUAL PRIZE DISTRIBUTION AT ST. BARTHOLOMEW'S HOSPITAL.—In the absence of Sir Trevor Lawrence, the treasurer of St. Bartholomew's Hospital, through indisposition, Mr. Alderman Alliston presided over the annual prize distribution of St. Bartholomew's Hospital Medical School held in the great hall of the hospital on July 18th. The Skinner prize in regional and morbid anatomy, including their reference to scarlet fever and rheumatic fever, was awarded to K. S. Wise; the Kirkes scholarship and gold medal in clinical medicine were won by E. E. Maples; and C. M. H. Howell gained the Lawrence scholarships and gold medal in medicine founded by the children of the late Sir William Lawrence, surgeon to the hospital and father of the present treasurer. The prizes were given away by the Bishop of London who, in the course of his remarks which he addressed to the students after distributing the awards, commented on the essential unity which ought to exist between his profession and the medical profession, these two being connected together in that the members of both were in their way searchers after truth. He deprecated the idea that the clergy were in any way obscurantists in the pursuit of truth and they looked to the medical profession to assist them in their work. Medical men should remember that they were the priests of humanity in as true a sense as were the members of his profession and he ascribed the growth of "Christian Science" to the fact that the medical profession had to some degree slipped away from its sacred calling.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Southampton Borough.—Mr. R. E. Lauder furnishes in his current annual report a good illustration of the difficulties which obtain in large towns of properly controlling the milk-supply or of tracing the infection of milk to its source. The importers of milk in Southampton receive milk from 46 farms situated in 11 different sanitary districts as well as from creameries which in turn receive milk from about 118 different farms. When we regard the mixture which takes place at a creamery it is easy to comprehend how very complex the investigation of milk-borne disease becomes. Mr. Lauder shows by means of an interesting diagram that in some cases the milk when it reaches the consumer will have passed through no less than five distributing centres which have received milk from various sources. It is shown that in the event of a certain milk coming beneath suspicion it would be necessary to trace the milk through the various distributing centres and eventually to inspect about 94 farms, situated in the counties of Hampshire, Wiltshire, Dorsetshire, and Somersetshire. In many instances an interval of from 14 to 16 hours elapses between milking the cattle and the delivery of the milk in Southampton and this delay in the warm months tempts the importers of the milk to add to it chemical preservatives. Mr. Lauder's suggestion that Southampton should have some control over the numerous farms which supply milk to the borough is quite sound but somewhat difficult of attainment in practice, but much may doubtless be done by an informal scheme of licensing farmers to supply their milk to the borough and publishing a list of those so licensed.

Bilston Urban District.—Dr. T. R. Bailey, in discussing the question of the provision of a sanatorium for pulmonary tuberculosis, thinks that "attention alone to such details as isolation of the patient, disinfection, the prevention of indiscriminate expectoration—all most important—can never entirely eradicate the disease so long as the conditions in which tuberculosis is bound to flourish are allowed to continue. It is worth considering whether the wisest course would not be to set steadily to work at the improvement of dwellings and the establishment on the outskirts of all large towns of 'garden cities' which should gradually come to replace the courts and alleys which will always remain as hotbeds of disease."

Wortley Rural District.—Dr. Alexander Anderson quotes some figures in his annual report as to the value of the isolation hospital in his district. We merely reproduce the table.

	Primary cases.		Attack-rate per cent. on susceptible cases remaining.	
	Under 15 years.	Over 15 years.	Under 15 years.	Over 15 years.
Home cases	70	7	16·2	1·4
Hospital cases... ...	185	16	7·5	0·7

Willesden Urban District Council.—Dr. William Butler, the medical officer of health of Willesden, has made some interesting observations upon the smoke and dust nuisances in this district. Allegations were made as to the dust which was stated to come from the Metropolitan Electric Supply Works, and with the view of throwing light upon this question Dr. Butler procured 12 boxes, each of the superficial area of one square yard and of a depth of six inches. The bottoms of the boxes were covered with glazed American cloth to facilitate the removal of accumulations. These boxes were placed in the back gardens at 12 different sites and in such a position that whatever was deposited in them from the atmosphere would be retained. This dust was collected every 24 hours and placed in labelled pill-boxes and upon examination it was found to consist of black carbonaceous particles distributed among a much finer black powder. These particles consisted of "miniature cinders" or the incomplete combustion of fine coal. Extraneous particles were so far as practicable separated and the coal dust was weighed, and it was found that substantial deposits were only to be found in those places which lay from the chimney in the direction of the prevailing wind, and the nearer the chimney was approached the larger was the quantity of dust collected. From these and other facts Dr. Butler arrives at the conclusion that a very serious nuisance exists in the neighbourhood of the works above referred to and on proceedings being taken a penalty of £5 was imposed with 20 guineas cost and an order was made to abate the nuisance and to prevent its recurrence. In connexion with this subject of smoke production and prevention it is instructive to refer to the current annual report of Mr. Peter Fyfe, the sanitary inspector of Glasgow, who furnishes some interesting charts illustrating the manner in which smoke may be enormously reduced by the employment of mechanical stokers, by better manual stoking, and by increasing the height of the chimney or the size of the boiler. Mr. Fyfe adds that in the case of ten chimneys which formerly gave from 30 to 60 minutes of black smoke in an hour the period of the emission of such smoke has been reduced almost to *nil*. Some highly instructive observations have also been made by Mr. Fyfe with respect to the amount of dust which is sent forth into the atmosphere by the Glasgow chimneys. Dust gauges were placed on the roofs of buildings in several parts of the city and after 70 days' exposure they were collected and their contents were weighed and examined by the chemist to the corporation. These researches showed that on an average 36·44 hundredweights of solid matter fall upon each acre of the city per annum. But in his last annual report Mr. Fyfe noted that nearly 39,000,000 cubic feet of black smoke issued daily from the chimneys of two of the large steel works in the city and with the view of determining how much solid matter is contained in black smoke he made careful experiments in the flues of the chimney at the sewage purification works. The average of the tests made was 281 pounds per million cubic feet of smoke discharged and it therefore appears that the steelworks above referred to send out into the atmosphere of Glasgow nearly 98 hundredweights of solid matter every 24 hours. It was further determined that light brown smoke contains only one-tenth part of the solid matter of that emitted by "black" smoke, or, put in another fashion, one minute's issue of black smoke is at least equal to ten minutes' issue of light brown smoke. We think that all will agree with Mr. Fyfe in the hope that a statutory limit to the emission of black smoke will soon be fixed.

Clown Rural District.—Mr. Walter Spencer supplies several instances in his report of the conveyance of enteric fever by the consumption of Cleethorpes oysters. Some 21 days after an excursion trip to Cleethorpes nine cases of enteric fever were notified in Clown and of these all had eaten oysters. Eventually the total number of cases, inclusive of the nine already mentioned, amounted to 40, and of these 26 had partaken of Cleethorpes oysters. As a consequence of these occurrences the sale of oysters from these waters was stopped and the district council passed a resolution authorising its sanitary officers to treat oysters from the local layings as articles unfit for food and to confiscate them. This is one way of dealing with the shell-fish problem but we are afraid that there might be some difficulty in obtaining legal support to the process.

Croydon Borough.—Dr. H. Meredith Richards has been instrumental in illustrating once more the practicability of supplying milk to a large town without the use of any preservatives. A notice was issued to the effect that the borough analyst was instructed to report upon the subject and the result was that apparently no preservatives were found in the samples of milk examined. Some excellent work seems to have been done in the chemical and bacteriological laboratory of this borough during the past year. 19 cases of enteric fever were examined by the serum reaction and 14 of these gave a positive reaction. Of the remaining five which failed to react one proved to be a case of appendicitis, another of tabes mesenterica, two of pneumonia, and one of diarrhœa.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8337 births and 4019 deaths were registered during the week ending July 16th. The annual rate of mortality in these towns, which had

been 13·2, 13·5, and 13·5 per 1000 in the three preceding weeks, increased to 13·7 per 1000 last week. In London the death-rate was 12·9 per 1000, while it averaged 14·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 4·8 in Bournemouth, 5·8 in Hornsey, 6·9 in Smethwick, 7·1 in Bury, 7·5 in Walthamstow and in West Hartlepool, 8·5 in Wolverhampton, 8·6 in King's Norton, and 8·7 in Handsworth (Staffs.); while the highest rates were 18·7 in Salford, 18·8 in Stockport, 19·1 in Burton-on-Trent, 19·4 in Middlesbrough, 19·6 in Liverpool, 21·3 in Rhondda, 22·5 in Huddersfield, and 26·2 in Bootle. The 4019 deaths in these towns last week included 506 which were referred to the principal infectious diseases, against 441, 456, and 500 in the three preceding weeks; of these 506 deaths, 179 resulted from diarrhœa, 142 from measles, 92 from whooping-cough, 37 from diphtheria, 28 from scarlet fever, 23 from "fever" (principally enteric), and five from small-pox. No death from any of these diseases was registered last week in Hornsey, Hastings, Bournemouth, Great Yarmouth, Devonport, Wolverhampton, Handsworth (Staffs.), Smethwick, Burnley, York, or Tynemouth; while the highest death-rates from the principal infectious diseases were recorded in Walsall, Stockport, Birkenhead, Liverpool, Bootle, St. Helens, Huddersfield, and Rhondda. The greatest proportional mortality from measles occurred in Brighton, Liverpool, Bootle, St. Helens, Salford, and Huddersfield; from scarlet fever in Northampton; from diphtheria in Merthyr Tydfil; from whooping-cough in Burton-on-Trent and Birkenhead; and from diarrhœa in Willesden, Norwich, Walsall, West Bromwich, Aston Manor, Liverpool, Bootle, Gateshead, and Rhondda. The mortality from "fever" showed no marked excess in any of the large towns. Of the five fatal cases of small-pox registered in these towns last week, two belonged to Newcastle-upon-Tyne and one each to Tottenham, Stockport, and Gateshead. The number of small-pox patients in the Metropolitan Asylums Hospitals, which had been 83, 74, and 71 at the end of the three preceding weeks, had further declined to 62 at the end of last week; seven new cases were admitted during the week, against 16, 10, and 10 in the three preceding weeks. The number of scarlet fever cases in these hospitals and in the London Fever Hospital on Saturday last, July 16th, was 1698, against 1629, 1631, and 1685 on the three preceding Saturdays; 229 new cases were admitted during the week, against 199, 254, and 269 in the three preceding weeks. The deaths referred to pneumonia and diseases of the respiratory system in London, which had been 141, 146, and 135 in the three preceding weeks, rose again last week to 155, and were 40 in excess of the number in the corresponding period of last year. The causes of 41, or 1·0 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Portsmouth, Leicester, Salford, Leeds, and in 49 other smaller towns; while the largest proportions of uncertified deaths were registered in Birmingham, Bootle, Rochdale, Blackburn, Preston, Bradford, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 15·9, 16·3, and 15·8 per 1000 in the three preceding weeks, further fell to 14·8 per 1000 during the week ending July 16th, but was 1·1 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 6·2 in Perth and 12·3 in Leith to 16·1 in Paisley and 17·5 in Dundee. The 488 deaths in these towns included 21 which were referred to whooping-cough, 19 to diarrhœa, six to measles, three to "fever," two to scarlet fever, and two to diphtheria, but not any to small-pox. In all, 53 deaths resulted from these principal infectious diseases last week, against 74, 75, and 64 in the three preceding weeks. These 53 deaths were equal to an annual rate of 1·6 per 1000, which was slightly below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 31 and 24 in the two preceding weeks, further declined last week to 21, of which 13 occurred in Glasgow, three in Paisley, and two in Edinburgh. The deaths from diarrhœa, which had been 22, 18, and 20 in the three preceding weeks, declined again to 19 last week, and included 13 in Glasgow, three in Edinburgh, and two in Dundee. The fatal cases of "fever," which had been four, three, and seven in the three preceding weeks, declined again last week to three, of which two were recorded in Dundee. The mortality from measles, from scarlet fever, and from diphtheria corresponded in each case with that recorded in the preceding week. The deaths referred to diseases of the respiratory organs in these towns, which had been 64, 80, and 88 in the three preceding weeks, declined again last week to 49, and showed a decline of 24 from the number in the corresponding period of last year. The causes of 22, or nearly 5 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 19·5, 16·5, and 17·9 per 1000 in the three preceding weeks, rose again to 19·3 per 1000 during the week ending July 16th. During the past four weeks the death-rate has averaged 18·3 per 1000, the rates during the same period being 12·9 in London and 15·5 in Edinburgh. The 140 deaths of persons belonging to Dublin registered during the week under notice were ten in excess of the number in the preceding week and included 18 which were referred to the principal infectious diseases, against three, seven, and ten in the three preceding weeks; of these, ten resulted from measles, three from whooping-cough, two from "fever," two from diarrhœa, and one from diphtheria, but not any from small-pox or scarlet fever. These 18 deaths were equal to an annual rate of 2·5 per 1000, the death-rates last week from the principal infectious diseases being 1·6 in London and 1·1 in Edinburgh. The fatal cases of measles, which had been two in each of the two preceding weeks, increased last week to ten. The three deaths from whooping-cough corresponded with the number in the preceding week, while the fatal cases of diarrhœa declined to two last week, having been five in the preceding week. The 140 deaths in Dublin last week included 35 among children under one year of age and 32 among persons aged 60 years and upwards; the deaths of infants greatly exceeded the number in the preceding week, while those of elderly persons showed a slight decline. Four inquest cases and five deaths from violence were registered; and 58, or more than two-fifths, of the deaths occurred in public institutions. The causes of five, or nearly 4 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING JUNE, 1904.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·4 per 1000 of the population, estimated at 4,648,950 persons in the middle of the year. In the three preceding months the rates had been 4·9, 5·1, and 5·9 per 1000. The rates were considerably below the average in Fulham, Chelsea, Stoke Newington, Southwark, Battersea, and Lewisham; while they showed the largest excess in Hackney, the City of London, Shoreditch, Bethnal Green, Stepney, and Poplar. The prevalence of small-pox during June showed a marked decline from that recorded in the preceding month; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in Stoke Newington, Finsbury, Bethnal Green, Stepney, Bermondsey, Lambeth, and Camberwell. The Metropolitan Asylums hospitals contained 74 small-pox patients at the end of last month, against 126, 104, and 118 at the end of the three preceding months; the weekly admissions averaged 13 against 31, 24, and 23 in the three preceding months. Scarlet fever was slightly less prevalent last month than it had been during May; this disease was proportionally most prevalent in Islington, Shoreditch, Bethnal Green, Stepney, Bermondsey, and Woolwich. The number of scarlet fever patients in the Metropolitan Asylums hospitals, which had been 1546, 1515, and 1632 at the end of the three preceding months, had declined again to 1599 at the end of last month; the weekly admissions averaged 206, against 160, 173, and 219 in the three preceding months. The prevalence

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JUNE, 1904.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,648,953	60	1204	619	—	108	1	18	905	—	2415	5·4	2	316	31	47	130	—	18	—	113	657	1·5	5362	13·5	89
West Districts.																										
Paddington	146,975	1	24	13	—	7	—	2	10	—	57	4·0	—	—	—	1	—	—	2	—	3	6	0·4	120	8·5	61
Kensington	179,236	1	33	18	—	6	—	1	14	—	73	4·2	1	3	—	—	1	—	2	—	4	11	0·6	203	11·8	110
Hammersmith	117,412	—	20	18	—	2	—	3	8	—	51	4·5	—	6	—	3	2	—	—	—	4	15	1·3	137	12·2	99
Fulham	152,482	—	20	25	—	2	—	—	6	—	53	3·6	—	9	1	1	7	—	—	—	3	21	1·4	170	11·6	85
Chelsea	74,329	—	2	6	—	1	—	—	5	—	14	2·0	—	—	—	—	5	—	—	—	—	5	0·7	108	15·2	131
City of Westminster	177,321	—	50	18	—	5	—	1	11	—	85	5·0	—	1	3	2	1	—	—	—	1	8	0·5	171	10·1	105
North Districts.																										
St. Marylebone	130,337	—	38	15	—	3	—	—	16	—	72	5·8	—	3	—	1	—	—	1	—	1	6	0·5	160	12·8	56
Hampstead	86,663	—	23	4	—	2	—	—	5	—	34	4·1	—	4	—	—	—	—	—	—	2	6	0·7	79	9·5	88
St. Pancras	235,936	3	77	32	—	6	—	—	29	—	147	6·5	—	11	1	4	16	—	2	—	3	37	1·6	325	14·4	87
Islington	341,044	3	135	28	—	7	—	2	13	—	188	5·7	—	33	5	2	5	—	—	—	2	47	1·4	374	11·4	69
Stoke Newington	52,445	3	8	2	—	1	—	—	4	—	18	3·6	—	—	—	—	—	—	—	—	1	1	0·2	56	11·1	82
Hackney	226,266	—	66	58	—	15	—	1	20	—	160	7·4	—	16	1	5	7	—	3	—	3	35	1·6	242	11·2	95
Central Districts.																										
Holborn	57,161	—	12	9	—	2	—	1	7	—	31	5·7	—	4	—	—	—	—	1	—	1	6	1·1	82	15·0	58
Finsbury	98,958	5	28	24	—	1	—	—	9	—	67	7·1	1	9	1	2	4	—	—	—	3	20	2·1	147	15·5	80
City of London	23,482	—	4	9	—	—	—	—	4	—	17	7·6	—	—	—	—	—	—	—	—	2	2	0·9	26	11·6	148
East Districts.																										
Shoreditch	117,033	—	43	15	—	4	—	—	19	—	81	7·2	—	10	1	—	6	—	—	—	8	25	2·2	178	15·9	114
Bethnal Green	130,207	15	69	25	—	2	—	—	15	—	126	10·1	—	25	2	3	5	—	—	—	2	37	3·0	203	16·3	109
Stepney	303,791	5	117	74	—	11	—	—	32	—	239	8·2	—	24	2	7	13	—	1	—	13	60	2·1	442	15·2	106
Poplar	169,905	1	41	51	—	3	—	2	20	—	118	7·2	—	8	3	3	6	—	1	—	6	27	1·7	210	12·9	91
South Districts.																										
Southwark	207,937	4	27	21	—	1	—	—	23	—	76	3·8	—	29	2	—	13	—	—	—	5	49	2·5	336	16·9	107
Bermondsey	129,397	4	45	13	—	3	—	—	21	—	86	6·9	—	20	1	2	3	—	1	—	7	34	2·7	189	15·2	112
Lambeth	310,359	10	61	24	—	3	—	—	17	—	115	3·9	—	33	1	4	12	—	—	—	8	58	1·9	385	12·9	106
Battersea	175,465	—	25	11	—	2	—	2	12	—	52	3·1	—	4	—	—	3	—	1	—	9	17	1·0	202	12·0	91
Wandsworth	257,448	—	71	25	—	3	1	1	25	—	126	5·1	—	14	1	2	5	—	1	—	7	30	1·2	241	9·8	72
Camberwell	268,384	5	62	32	—	4	—	1	28	—	172	5·1	—	20	2	2	3	—	2	—	3	32	1·2	293	11·4	68
Deptford	113,509	—	27	12	—	5	—	—	16	—	60	5·5	—	18	—	—	1	—	—	—	2	21	1·9	127	11·7	116
Greenwich	101,651	—	15	20	—	5	—	—	5	—	45	4·6	—	7	—	2	2	—	—	—	2	13	1·3	103	10·6	58
Lewisham	140,401	—	19	9	—	2	—	—	7	—	37	2·7	—	—	—	1	5	—	—	—	6	12	0·9	129	9·6	66
Woolwich	123,416	—	42	8	—	—	—	1	4	—	55	4·6	—	5	4	—	5	—	—	—	2	16	1·4	124	10·5	59
Port of London	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

of diphtheria last month showed a slight decline from that recorded in the preceding month; among the various metropolitan boroughs the greatest proportional prevalence of this disease occurred in Hackney, Finsbury, the City of London, Stepney, Poplar, and Greenwich. The Metropolitan Asylums hospitals contained 681 diphtheria patients at the end of last month, against 786, 716, and 755 at the end of the three preceding months; the weekly admissions averaged 95, against 94, 97, and 113 in the three preceding months. The prevalence of enteric fever last month showed but little variation from that recorded in the preceding month; this disease was proportionally most prevalent in Paddington, Hackney, Shoreditch, Stepney, Deptford, and Greenwich. The Metropolitan Asylums hospitals contained 62 enteric fever patients at the end of last month, against 86, 62, and 51 at the end of the three preceding months; the weekly admissions averaged 12, against 11, nine, and ten in the three preceding months. Erysipelas was proportionally most prevalent in St. Marylebone, St Pancras, Holborn, the City of London, Shoreditch, Bermondsey, and Deptford. The 18 cases of puerperal fever notified during the month included three in Hammersmith, two in Paddington, two in Islington, two in Poplar, and two in Battersea.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the five weeks ending July 2nd the deaths of 5562 persons belonging to London were registered, equal to an annual rate of 12·5 per 1000; in the three preceding months the rates had been 16·7, 16·2, and 13·9 per 1000. The lowest death-rates in London last month were 8·5 in Paddington, 9·5 in Hampstead, 9·6 in Lewisham, 9·8 in Wandsworth, 10·1 in City of Westminster, and 10·6 in Greenwich; while the highest rates were 15·2 in Chelsea, in Stepney, and in Bermondsey, 15·5 in Finsbury, 15·9 in Shoreditch, 16·3 in Bethnal Green, and 16·9 in Southwark. The 5562 deaths from all causes in London last month included 657 which were referred to the principal infectious diseases; of these, two resulted from small-pox, 316 from measles, 31 from scarlet fever, 47 from diphtheria, 130 from whooping-cough, 18 from enteric fever, and 113 from diarrhœa. The lowest death-rates from these diseases were recorded in Paddington, Kensington, Chelsea, City of Westminster, St. Marylebone, Hampstead, and Stoke Newington; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Southwark, and Bermondsey. Of the two fatal cases of small-pox registered last month, one belonged to Kensington and one to Finsbury. The 316 deaths from measles were 15 below the average number in the corresponding period of the ten preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Islington, Bethnal Green, Southwark, Bermondsey, Lambeth, and Deptford. The 31 fatal cases of scarlet fever were only one half of the corrected average number; the greatest proportional fatality from this disease occurred in the City of Westminster, Islington, Bethnal Green, Poplar, and Woolwich. The deaths from diphtheria numbered 47 last month, the average number in the corresponding periods of the ten preceding years having been 144; among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith, Hackney, Finsbury, Bethnal Green, Stepney, and Greenwich. The 130 fatal cases of whooping-cough showed a decline of 59 from the corrected average number; the greatest proportional mortality from this disease occurred in Fulham, Chelsea, St. Pancras, Shoreditch, Stepney, Southwark, and Woolwich. The 18 deaths from enteric fever were 14 below the average number in the corresponding periods of the ten preceding years; among the various metropolitan boroughs this disease was proportionally most fatal in Paddington, Kensington, St. Pancras, Hackney, and Camberwell. The 113 fatal cases of diarrhœa were slightly in excess of the corrected average number; this disease showed the highest proportional mortality in the City of London, Shoreditch, Stepney, Bermondsey, Battersea, and Lewisham. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was nearly 26 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 89 per 1000. The lowest rates of infant mortality were recorded in Paddington, St. Marylebone, Holborn, Greenwich, Lewisham, and Woolwich; and the highest rates in Kensington, Chelsea, the City of London, Shoreditch, Bermondsey, and Deptford.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Inspector-General H. M. Ellis to the *President* for temporary service at the Admiralty. Fleet Surgeon H. F. Iliewicz to the *Excellent* for the *Colossus* while guardship at Cowes. Surgeons: H. V. Wells to the *Dwarf* on recommissioning, undated; and W. J. Codrington and H. P. Turnbull to the *President* for three months' course of hospital study.

ROYAL ARMY MEDICAL CORPS.

The undermentioned Lieutenants to be Captains (dated June 27th, 1904):—Frederic W. Lambelle, Martyn C. Beatty, Theodore F. Ritchie, Alexander W. Sampey, Thomas J. Potter, Alexander J. Williamson, Ernest V. Aylen, Henry Rogers, William Davis, and Denis J. F. O'Donoghue.

The undermentioned Lieutenants are confirmed in that rank:—Robert M. Ranking, Francis J. Turner, Godfrey F. Rugg, Douglas S. B. Thomson, John Fairbairn, Leonard Bousfield, James H. Douglass, Arthur S. Arthur, Robert R. Lewis, Alexander L. Otway, Charles H. Turner, Dumaresq Le Bas, Eugene C. Whitehead, Walter F. H. Vaughan, Richard B. Hole, Travis C. Lucas, George E. Cathcart, William Wiley, Howard Harding, John A. Turnbull, Montague F. Grant, David P. Johnstone, Edward H. M. Moore, Michael D. Ahern, Frederick J. Garland, Alban A. Meaden, Robert J. Cahill, and Harry B. Connell.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant S. M. Sloan to be Surgeon-Captain (dated July 6th, 1904); Captain H. E. Dalby, Royal Army Medical Corps Militia, to be Surgeon-Captain (dated July 20th, 1904); and Surgeon-Lieutenant R. C. Gayer, Surrey Imperial Yeomanry, to be Surgeon-Lieutenant (dated July 20th, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Midlothian: Duncan Robert Macdonald to be Surgeon-Lieutenant (dated July 16th, 1904).

Royal Engineers (Volunteers): 1st London: Surgeon-Lieutenant J. C. Jackson resigns his commission (dated July 16th, 1904).

Rifle: 1st Volunteer Battalion the Hampshire Regiment: Surgeon-Lieutenant J. A. James to be Surgeon-Captain (dated July 16th, 1904). 1st Volunteer Battalion the Durham Light Infantry: Surgeon-Lieutenant-Colonel J. W. Blandford to be Brigade Surgeon-Lieutenant-Colonel whilst holding the appointment of Senior Medical Officer of the Durham Light Infantry Volunteer Infantry Brigade (dated July 16th, 1904); and Surgeon-Captain L. J. Blandford is borne as Supernumerary whilst commanding the Durham Light Infantry Volunteer Infantry Brigade Bearer Company (dated July 16th, 1904).

MR. ARNOLD-FORSTER'S NEW ARMY SCHEME.

Mr. Arnold-Forster has now furnished Parliament with a statement of his proposals regarding army reform and he has outlined the skeleton of a scheme on and around which the new army organisation has to be moulded and filled in in order to give it figure and form. Apart from the extremely difficult and complicated nature of the problem in itself the War Minister has been confronted with two conflicting, if not antagonistic, considerations—namely, the necessity for the reduction of public expenditure while having to fulfil at the same time the strongly expressed national demand for increased military efficiency and all-round preparedness for war. The scheme is bold in aim and design and it has, like all measures in which the reconstructions are of necessity of the most radical and comprehensive kind, its good and bad features as well as much that must be of a tentative and provisional nature. There is a great deal in the new scheme which strikes us as coming within the purview of medical consideration, comment, and criticism, but it would be impossible to deal with it within any brief compass nor would it probably serve any useful purpose to do so at the present stage of the inquiry.

THE WAR IN THE FAR EAST.

As might be expected in the circumstances, there would be much to chronicle if the number of unauthenticated reports that have appeared regarding the war could be taken into account. But the actual events of which we have had official information during the past week have been comparatively few. Up to the receipt of the news of the battle in the Motien Pass caused by the Russian attack in strong force on the Japanese position there, of the stubborn resistance of the Japanese, and of the ultimate rout and pursuit of the Russians with the loss of more than 1000 of their number there had been a comparative lull in the war operations. From all accounts it would appear that the enveloping process of General Kuropatkin's army by the Japanese is going on, if it is not already complete, but we do not hear of the Japanese having yet struck at the railway which has all the meantime been bringing reinforcements from Russia and greatly augmenting the strength of the forces at Kuropatkin's disposal. His strategic position has apparently been improved. It seems still probable that we shall soon hear, however, of fighting on a large scale somewhere in the vicinity of Tashi-chao. There is nothing of importance to be recorded regarding the siege of Port Arthur or as to the date of the expected attack or the health of the garrison. As Port Arthur is besieged and isolated at the present time its hospitals must contain a large number of sick and wounded. The Japanese have framed a serious indictment against the Russians on the score of cruelty and barbarity on their part in the conduct of the war.

We hear next to nothing of the health and sanitary condition of the belligerent forces in the field. The losses caused by sickness in a campaign are always far in excess of those caused by bullets and there must be a great deal of inefficiency on both sides in this war from diseases of one sort and another. The cholera epidemic prevailing in Persia is giving rise to some anxiety in Russia and precautions are being taken to guard against its possible introduction into that country. Orders have been given to close the land frontier at Astara for travellers, merchandise, and luggage, and at Julfa quarantine has been established for imports from Tabriz. Telegraphic reports received at Baku from Teheran state that "cholera is assuming alarming dimensions. Europeans are leaving the town hurriedly, leaving their property without surveillance, and camping out on the mountains. The Teheran agent to the Caucasian Quicksilver Company has died of the disease." Persons who have arrived at Baku from Teheran state that on some days the mortality reached a total of 900 and that the bodies of the dead could not be removed from the streets as fast as they accumulated.

The *Journal of the Association of Military Surgeons* for April contains an interesting article on the Red Cross Society of Japan by Colonel Nicholas Senn, surgeon-general U.S.A., who is personally acquainted with the working of the institution, of which he is also an honorary member. In 1877, when the south-western provinces of Japan rebelled, a society was formed by the loyal party with the object of affording aid to the sick and wounded. It was called the *Hakuaisha*, or Benevolent Association, and proved to be of the greatest utility. When the disturbance was quelled the association was constituted on a permanent basis and soon afterwards, when the Japanese Government joined the Geneva Convention, it became the Society of the Red Cross of Japan. Since then its progress has been remarkable. At the present time the society contains upwards of 800,000 members, the general population of the islands having responded in a remarkable manner to the example set them in the official world and more especially by the Imperial family. The president is an Imperial prince and the committee of women is presided over by an Imperial princess, while the Emperor himself takes the greatest interest in the transactions of the society and pays frequent visits to the Red Cross hospital in his capital. Baron Ishiguro and Baron Hashimoto, very distinguished members of the medical profession in Japan, have been the moving spirits of the society from its inception and have everywhere received the ungrudging coöperation of their professional brethren. In order to keep up popular interest in the undertaking an annual meeting is held, generally at Tokio in the Uena Park. The attendance is seldom under 200,000 persons of both sexes.

On the authority of Dr. Dworetzky of Moscow, a writer in the *Archives de Médecine et de Pharmacie Militaires* for July gives the following information regarding the health of the Russian troops in Manchuria, not including the garrison of Port Arthur. On May 25th last there were 27 cases of infectious disease among the soldiers, distributed as follows: dysentery, six; typhoid fever, eight; typhic fevers not yet diagnosed, six; petechial typhus fever, three; small-pox, one; malignant pustule, one; scurvy (*sic*), one; and measles, one. Plague has not been seen anywhere. Sickness is consequently inconsiderable, not exceeding the amount usually occurring in time of peace. It is not to be supposed, however, that such a condition of things will last very long. We may soon, continues the author, expect to hear of a considerable amount of infectious disease. It must be remembered that the theatre of the present war is the home of plague, cholera, dysentery, small-pox, and typhic maladies of every description. The Medical Society of Moscow, being anxious to take a share in the struggle against these terrible scourges of armies in the field, decided as soon as hostilities broke out between Russia and Japan to send sanitary columns to the seat of war. It was easy to obtain recruits for these columns in Moscow where there is a flourishing bacteriological institute under the charge of Dr. Blumenthal. The society paid special attention to prophylactic inoculations against typhoid fever and dysentery and also to the question of how far it was permissible to employ serums while endeavouring to combat the epidemics incidental to active service.

At Kharbin a number of wooden and iron barges are being prepared for the transfer of the sick and wounded along the river Sungari to Khabarovsk. A series of rooms is fitted up in the holds capable of receiving from 15 to 20 patients each and on deck accommodation is provided for the medical officers, sisters of mercy, sanitary officers, and others, as also for storing linen, medicines, and drugs, besides baths and some more wards. The wooden barges will accommodate only about 120, as against about 200 for the iron ones, and the latter are unfortunately too few for the whole service. The passage on the river will take four days.

The *Russki Listok* has a telegram from Newchwang stating that the *Lieutenant Burukoff*, which has been so successfully running the Port Arthur blockade, on its last return journey to Port Arthur in the teeth of the Japanese vessels watching for it to come out, took a large quantity of medical and surgical material, including surgical instruments, specially collected by the Red Cross Society at the request of General Stessel, the commander of the fort.

The executive committee of the Red Cross Society, says the *Sviet*, has decided to pay to the wife of Dr. Ryshkova (who was taken by the Japanese) an allowance at the rate of 200 roubles per month during his captivity.

Correspondence.

"Audi alteram partem."

THE NEW SYDENHAM SOCIETY.

To the Editors of THE LANCET.

SIRS,—Will you oblige me with a small portion of your valuable space in order to draw the attention of all interested in the work of the New Sydenham Society to the fact that our annual meeting (the forty-fifth) will be held next week in Oxford? By the courtesy of the British Medical Association we always meet during its sittings and in one of its rooms. This year (see advertisement) it will take place at 9.30 A.M. on Friday, July 29th, in room 10, ground floor of the schools buildings. Our President, Professor W. Osler, will, it is expected, take the chair.

This meeting will be of somewhat especial importance. The council's report will contain proposals calculated, it is hoped, greatly to extend the sphere of the society's usefulness which it desires to make widely known. Encouraged by the success which has attended the Clinical Atlas the council at its last meeting decided to recommend that, whilst keeping as closely as possible to the programme issued, no date should at present be fixed at which the issue of the Atlas should be considered complete but that it should continue so long as it is found to be acceptable to the profession. At the same time it was decided to appoint a large and representative committee to carry on the work. Under these arrangements the unique facilities which our society offers for the economical, and yet liberal, employment of pictorial art for the advancement of clinical

knowledge may, we hope, continue to exist for some years to come.

Should our arrangements meet with the support which we think that they will deserve there will be but little limit to the detail in which they may be carried out. The case is emphatically one in which success breeds success and the larger our members' list the more will each individual member receive for his guinea and the greater will be the attractions which the society can offer to induce others to join it. Already it seems not improbable that our income may soon justify the issue of a printed volume in addition to the four fasciculi of the Atlas to which we are pledged and if our members' list were doubled we might almost double the rate of issue of the fasciculi. It is therefore much wished that we may have a good attendance at our annual meeting and all members of the profession, whether already subscribers or not, will be welcomed at it.

I am, Sirs, yours faithfully,

JONATHAN HUTCHINSON,
Honorary General Secretary, New Sydenham Society.

July 19th, 1904.

HEALTH AND EDUCATION.

To the Editors of THE LANCET.

SIRS,—Now that the medical profession has spoken so emphatically regarding the desirability of the children in the elementary schools being taught, as a matter of routine, the advantages of cleanliness, pure air, temperance, and proper food, it is to be hoped that the suggestions made will soon be put into practice. To this end it is well that the authorities should be made to understand that the teaching required is of the simplest possible kind, and can be quite easily adopted without interfering with other school work. The great canons of health are very simple, easily comprehended, and capable of being written down in a space scarcely larger than that required for the Ten Commandments. There is no need to bewilder the children with high-sounding words and pseudo-scientific explanations, and I earnestly hope that the fatal error will not be made of supposing that in order to learn how to live healthily it is necessary to have any acquaintance with physiology. Even we poor medical men with all the advantage of special training can only attain—strive how we may—to a slender knowledge of this embryo science, and by attempting to teach it to children we shall only be addling their poor little brains and obscuring the great principles we wish to inculcate. What good does a child get from knowing where his kidneys are, or what they are for? or by studying those somewhat gruesome and assuredly very unlovely pictures of the human "inside" which so frequently disfigure the walls of the school-room? Far better—in my humble judgment, at least—that children should remain in entire ignorance of the structure and functions of their bodies. The body as an object of study should, in fact, be severely ignored by its possessor. It is he who lives in glorious ignorance of the fact that he possesses a heart or a liver that is the happy man. Speaking for myself, I can confidently assert that my own knowledge of the structure and functions of my body has not helped me in the smallest possible degree to live healthily. I find it all-sufficient to live according to a few commonsense principles. The way people nowadays talk of their internal organs—of their livers, kidneys, and vermiform appendices—and the morbid interest they display in abdominal and pelvic surgery are amazing and occasionally embarrassing. These topics are freely discussed among "polite" circles, in the theatre, in the drawing-room, nay, even the dining-room is no longer safe from their intrusion. Verily we are living in a realistic age!

Let me prove my contention that it is possible to learn how to live a healthy life without any knowledge of anatomy and physiology by reference to the subject of ventilation. In teaching this subject to a child there is no surer way to befog him, and to obscure the grand truth that it is sought to bring home, than by attempting to make him understand the anatomy of the lungs and the functions of the red blood corpuscles. All that is necessary is to point out in the simplest possible language the good that comes from breathing pure air and the harm that comes from breathing impure air. The child should be made to realise that human beings need, like the flowers in the fields, fresh air and sunlight and cannot, any more than the flowers can, flourish in dark and stuffy chambers, but without light and fresh air must, like these, wither away and die. The child's imagination may further be appealed to by telling him how many of our poor soldiers used to die from consumption in the old days when they were huddled together in imperfectly ventilated barracks and how, when they were provided with larger and better ventilated dormitories, this disease became much less common; or, again, by depicting the terrible tragedy of the Black Hole of Calcutta. Having given a few such homely illustrations of the good that comes from fresh air and sunlight, and the evil that lurks in dark and foul-smelling places, what more is there to be said on the matter beyond giving a few practical hints as to the best way of securing proper ventilation in the home?

The mere teaching of principles is, however, not enough: they need to be put into operation; otherwise they are apt to become nothing more than formulæ, like the catechism that is so diligently taught, and so often repeated that it soon becomes a mere jargon of words to be ground out upon occasion after the manner of the phonograph. It was, I believe, Herbert Spencer who insisted that preaching alone does little good: ethics is not only a science but an art—and to some a very difficult one—only to be acquired after much painstaking practice. And so it is with hygiene. If real good is to be achieved in this direction the teacher must not rest content with enunciating its principles, but must see to it that they are as far as possible put into practice.

I am, Sirs, yours faithfully,

Wimpole-street, July 17th, 1904. HARRY CAMPBELL.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—Will you kindly allow me to invite the attention of the profession to the annual temperance breakfast which will be given by the National Temperance League at Oxford, on Thursday morning, July 28th? The occasion will this year be of exceptional interest in view of the recent memorial to the Educational Department and of the evidence which we were enabled to present to the Physical Deterioration Committee of the Privy Council. Among those who have expressed their intention to support Mr. W. McAdam Eccles who will preside, are Sir William Broadbent, Dr. Fletcher Beach, Professor Murdoch Cameron, Surgeon-General G. J. H. Evatt, A.M.S., Sir Victor Horsley, Dr. T. B. Hyslop, Dr. Robert Jones, and Mr. G. Pernet. I shall be glad if those who can attend will kindly apply for tickets at our table in the reception-room.

I am, Sirs, yours faithfully,

JOHN TURNER RAE, Secretary.

Paternoster House, London, E.C., July 18th, 1904.

ROYAL ACCOUCHEMENTS.

To the Editors of THE LANCET.

SIRS,—The following extract from "Mediæval England," by Mary Bateson of Newnham College, shows that the great obstetrician William Hunter was not the first male attendant on an English queen during her confinement:—

> Further, the Normans brought with them a knowledge of medicine in advance of that of the English. John of Tours, Bishop of Wells (1088-1123), was famed for his medical skill; the Italian Grimbald, or Grimaldi, was in constant attendance as leech to the court and he, with the Italian abbot of Abingdon, Faricius, attended Henry I.'s Queen Matilda in childbed. When Faricius was near being made archbishop it was urged against him that he attended women in sickness.

I am, Sirs, yours faithfully,

EDWARD H. YOUNG.

Okehampton, Devon, July 18th, 1904.

CALCULOUS ANURIA.

To the Editors of THE LANCET.

SIRS,—The case of calculous anuria related by Dr. Clement Dukes in THE LANCET of July 16th, p. 174, is of much interest. One or two points seem to call for further notice. In the first place, Dr. Dukes says that "the case is remarkable in that suppression of urine resulted instead of distension of the pelvis of the kidney." I think that it is generally admitted that dilatation is only caused by partial or gradual obstruction of the ureters. Sudden blocking commonly causes suppression. Again, the writer expresses surprise that there were no symptoms of uræmia. So far as I have seen it is very rare indeed, strange as it may seem, for these to appear.

This fact is connected in some way with the internal secretion of the kidney. Herter, in an analysis of 41 cases of suppression due to stone, says that convulsions occurred in only five cases, headache in six, and vomiting in 12. As regards the duration, cases are on record where no urine was passed for more than a fortnight. In one case in which the only kidney was removed the patient survived 11 days.

And now let us turn for a moment to the most interesting point. Dr. Dukes asks, "Can a stone in one ureter inhibit the action of both kidneys?" I hold strongly that it can. Two cases that have come under my care during the past year bear upon this question.

In the first, that of an elderly man suffering from malignant disease of the prostate, total suppression came on suddenly. The left kidney was opened from the loin, the obstruction being due to a small stone. Subsequently he passed much urine and on his death six weeks afterwards the right kidney was found to be healthy.

The second case is not so conclusive, as we were fortunately not able to verify the condition post mortem. A young man after having suffered from attacks of renal colic for five years was seized with suppression. On the fourth day the left kidney was opened and a probe was passed down it into the bladder but no calculus was found. He made an uninterrupted recovery and at the end of six weeks was discharged with the nephrotomy wound healed and passing 50 ounces of urine in the 24 hours. The anuria in this case was, I think, probably brought about by a kink in the left ureter which was put right by the manipulation and subsequent fixation of the kidney. It may possibly have been due to a stone which I failed to detect but which escaped during the operation. In neither of the cases was there any dilatation of the pelvis, nor was there anything to point to disease of the opposite kidney.—I am, Sirs, yours faithfully,

Lancaster, July 18th, 1904. A. S. BARLING.

ON THE POSSIBLE LOCAL NATURE OF SCARLET FEVER.

To the Editors of THE LANCET.

SIRS,—The cause of scarlet fever is generally assumed to be a micro-organism circulating in the blood. There is much evidence in support of the micro-organism, but as far as can be ascertained little or none with regard to its habitat being the circulation. On the other hand, I think there is much evidence in support of the view that scarlet fever is a local faucial disease which produces its characteristic symptoms by means of absorbed toxins. The confirmation or refutation of this local theory is, of course, dependent upon exact bacteriological knowledge, which up to now is not forthcoming. Dr. M. Gordon's summary in the "Encyclopædia Medica" gives the bacteriology up to date and though somewhat indefinite, yet, when taken in conjunction with the obviously infectious nature of the disease, it makes a very strong case for the assumption that the streptococcus conglomeratus is the real cause of the disease. This micro-organism is found in the faucial mucus and nasal discharge, but not in the aural discharge. It is also found in the exudates and in the blood of patients dying from the disease. The absence from the aural discharge is probably due to the ordinary pus cocci, so to speak, getting the victory. Thus far, then, the bacteriology apparently supports the view that the disease is due to a blood infection. The presence of the streptococcus conglomeratus in the exudates implies a transitory passage in the circulation or lymphatic system. The finding of the organism itself in the blood by no means proves that the circulation is the place where it multiplies and produces its toxins. There are other diseases which we know to be local in which the specific micro-organism has been found in the blood in numbers. Moreover, the clinical features of the disease are somewhat against the blood infection view. It is well known that the rash of scarlet fever almost invariably starts on the neck and chest and thence spreads over the body and less markedly upwards over the face and head. The extension of the rash on to the face is not mentioned by all authors but it undoubtedly does occur and is evident if the case is seen early enough. The early desquamation of the face must imply previous rash. This constant point of onset and definite slow march over the body, so much slower than the progress of the blood, is one of the most constant and remarkable features of the disease. To my mind it implies a constant point from which the toxin is absorbed and a vehicle other than the blood. On looking at the disposition of the lymphatic system and its relation to the tonsils and pharynx it will be seen that the absorption of a rash-producing toxin along these channels would be most likely to give rise to its earliest effects in the neighbourhood of the neck and chest. The enlargement of the glands in the region of the neck is evidence that absorption of some kind is taking place. The blood infection theory cannot in any way explain the rash, for if that theory be true one would expect an irregular rash, making its onset at no particular point and becoming patchy or else a rash which pervades the whole body and gradually deepens.

If the course of the disease be compared with the severity of the initial angina it will be found that there is a very definite relation between them. That is to say the more severe the throat symptoms the more pronounced and enduring will be the rash and the more severe the early course of the disease. This applies only to the early angina and not to the severe faucial inflammation which often supervenes, this latter being due to secondary infection. These conclusions embody observations on some hundreds of cases, but to confirm them I wrote a letter to a number of medical officers of infectious hospitals asking the following questions: 1. In your experience is there any definite relation between the intensity of the initial throat symptoms and the intensity of the rash in scarlet fever? 2. Does the intensity of the subsequent peeling vary with the intensity of the rash, with its persistence, or with both? To the first question I received seven replies in the affirmative and two in the negative. One reply in the negative had a note added to the effect that the throat symptoms depended largely upon the hygienic or unhygienic state of the oral cavity, which rather implies that the answer was meant for the secondary angina. So that there is much evidence to show that throat and rash bear a definite relation to one another. To the second question all the replies stated that the intensity of the peeling depends upon both the intensity and persistence of the rash, but chiefly the former.

Clifford Allbutt, in his "System of Medicine," looks upon the greater prevalence of scarlet fever in the northern hemisphere as being due to the greater prevalence of enlarged tonsils.

In diphtheria we have a throat disease of undoubted local nature, and if scarlet fever is looked at side by side with this disease it will be seen how remarkably alike are the symptoms and sequelæ, the difference being largely those of intensity, time, or frequency of occurrence.

Disease.	Initial symptoms.	Sequelæ.
Scarlet fever.	Throat and nose; rash.	Albuminuria, arthritis, cardiac, otitis, adenitis, neuritis.
Diphtheria.	Throat and nose.	Albuminuria, arthritis, cardiac, otitis, adenitis, rash, neuritis.

If scarlet fever is a local disease it will certainly follow that the desquamating epithelium is not in itself infectious, that is to say, only becomes infectious from contamination with faucial or nasal discharges. Desquamation of a mild kind of course is a natural process and can be easily observed in the uncleanly and it only requires conditions of hyperæmia, malnutrition, or circulating toxins to bring about pathological desquamation. It may be seen after many diseases and is in no sense a criterion of scarlet fever. It has been seen after typhoid fever, acute rheumatism, measles, and after rashes produced by toxins absorbed through the intestinal canal. With regard to the non-infectious nature of desquamation after scarlet fever, Dr. C. K. Millard produced some very interesting evidence in THE LANCET of April 5th, 1902, p. 959. His principal arguments against the infectious nature of the desquamating epithelium are as follows: (1) the absence of evidence supporting it; (2) infection begins prior to desquamation and often continues long after desquamation has ceased; (3) scarlet fever wards though abounding in desquamating epithelium are not a danger to neighbouring houses; and (4) the proportion of "return" cases does not appear to be increased amongst patients sent out from hospital still desquamating.

There is just one point that requires explanation and that is the apparent flaw in the argument caused by the fact that in scarlatina maligna one may get no rash or throat

symptoms; the patient may die within 24 hours of onset. It seems to me that in these cases there are all the appearances of a blood infection pure and simple and that the condition is one of scarlatinal septicæmia.

To sum up, then, the bacteriological evidence, the very definite relation between the severity of the throat symptoms and the severity of the rash, the remarkable similarity of this disease to that of diphtheria, and the evidence supporting the view that the desquamating epithelium is not the infecting material, all these point to the disease being local rather than general. To this may be added the fact that the blood infection view cannot explain the onset and progress of the rash in a satisfactory manner.

I am, Sirs, yours faithfully

July 18th, 1904. A. H. GERRARD, M.B. Lond.

WHAT CONSTITUTES LIVE BIRTH?

To the Editors of THE LANCET.

SIRS,—The definition of stillbirth, proposed by the Midwives Board and later authorised by the Privy Council, as quoted under the above title in THE LANCET of July 9th, p. 93, should not be allowed to pass without comment. The tests applied by midwives are to be "breathing or showing any sign of life after being completely born." This definition makes stillbirth and deadbirth identical, whereas historically and not uncommonly in books and in practice these terms are opposed. The stillborn is really the silent-born child (compare "the still days" of Passion week); these newly-born children are not necessarily pulseless, that is, asphyxiated in the true sense of that word. Further, "any sign of life" begs the whole question, for this requirement is an alternative far too indefinite to be allowed place in a logical definition. This easy vagueness gives ample scope for such casuistry as was exemplified in the oft-quoted case Fish *v.* Palmer (not reported), where a full-term child was born in 1796 and was stated by the nurse to have exhibited, as a sign of postnatal life, no other token than "twice a twitching and tremulous motion of the lips"; the jury decided for its live birth. Such a remarkable test case needed severe scrutiny and verification. I decided to trace its literary history with the following result. The English text-book authors all quote it from Beck, he quoted it from Fœdéré, who quoted it from *Le Moniteur*, whither it was copied and translated from *Lloyd's Evening Post* of July 15th, 1806. This was its original citation with three other identical accounts, presumably from the same pen, in three contemporary newspapers—the *Times* being silent. Since the learned reporter has long been disabled from making affidavits as to the accuracy of his report, the alleged decision must remain of very little forensic significance; indeed, it has never been cited by counsel. Decided cases, civil and criminal, show that the postnatal continuance of activity of the cardio-vascular system is the essential minimum for live birth. Mr. Justice Wright has personally assured me that he "has no objection" to the terms he is stated to have used in defining "separate existence in the theory of the law." Finally, may I quote, as a curiosity, a death certificate returned in 1896 in which the subject was stated to be "aged one minute"?

I am, Sirs, yours faithfully,

Inner Temple, July 11th, 1904. STANLEY B. ATKINSON.

THE WHITE CROSS LEAGUE.

To the Editors of THE LANCET.

SIRS,—The satisfactory results of the mission to the principal towns and cantonments in India undertaken by the White Cross League two years ago have made the committee desirous of complying with the request of the Bishop of Lahore, the president of the Indian White Cross Association, to send out one of its staff again this winter. The ready welcome given to the speaker sent out by the league by every branch of the service and the earnest coöperation of officers and men gave vivid proof of the spirit that is at work in the army in India and throws on us a fresh obligation to meet effectively so remarkable a response. It would be a serious thing to miss an opportunity to which so high an authority again invites us, yet it is impossible for us to accept the call on the strength of our present scanty funds. These are already inadequate to meet the growing demands upon our resources for work at home. We are therefore obliged to appeal for assistance to those of the public who are interested in the moral welfare of our countrymen in India, which in these days of short service is closely connected with our home life and national health. No one who realises the moral strain which the national will lays upon our Indian army can hold himself unconcerned in its welfare or unaware of its perils. By assisting the league he may do something to discharge this responsibility towards those who have to maintain the nation's honour at such terrible risk. As the absence of one of its secretaries from England for five or six months will necessitate the employment of a substitute the total amount required will be at least £150. Any donation will be thankfully received by the committee and may be sent to the secretaries of the White Cross League at 7, Dean's-yard, Westminster, by whom any detailed information will be gladly supplied.

We are, Sirs, yours faithfully,

A. LUCKNOW, Bishop.
H. M. EVANS, C.B., General, Chairman.
ROBERTS, Field-Marshal.
HENRY SCOTT HOLLAND, Vice-Chairman.
J. WOLFE MURRAY, Major-General.
G. A. LAHORE, Bishop, President Indian Army White Cross Association.

CONTAGIOUS ABORTION IN CATTLE.

To the Editors of THE LANCET.

SIRS,—In your note on the above subject in THE LANCET of July 16th you observe: "Professor Cave's results clearly show that contagious abortion can be prevented by the adoption of appropriate local antiseptic treatment for cows and, *if necessary, for the bull.*" I have italicised the last statement because I am surprised to see any doubt expressed as to the need for treating the bull in every herd in which contagious abortion (warping) has established itself. My impression is that the late Professor Nocard clearly established nearly 20 years ago that in every such case the bull was the main, if not the sole, medium for diffusing the infection and some inquiries which I myself made in this neighbourhood more than ten years ago quite confirmed that opinion.

I am, Sirs, yours faithfully,

Gloucester, July 18th, 1904. FRANCIS T. BOND, M.D. Lond.

To the Editors of THE LANCET.

SIRS,—I have read with much interest your annotation in THE LANCET of July 16th concerning the local use of antiseptics as a remedy for recurring abortion in cattle. I am under the impression that the treatment is not so new as your reference to Professor Cave's experiments would lead your readers to believe since it is within my knowledge that at least one veterinary surgeon of distinguished standing in his profession and a famous breeder of prize cattle—Mr. C. Stephenson of Newcastle-upon-Tyne—has for years made use of antiseptic vaginal injections with marked success in the treatment of such cases.

I am, Sirs, yours faithfully,

WILLIAM MARTIN, M.D. Durh.

Newcastle-upon-Tyne, July 19th, 1904.

THE INTERNATIONAL CONGRESS OF DERMATOLOGY.

To the Editors of THE LANCET.

SIRS,—You were kind enough some time back to call the attention of your readers to the report I was preparing for the forthcoming Berlin International Congress of Dermatology on Prevalence of Leprosy in the British Empire. May I ask you to be kind enough to let me notify in your columns my thanks to the numerous correspondents who have sent me data, and greatly oblige

Yours faithfully,

GEORGE PERNET,
Assistant to the Skin Department University College Hospital.

July 18th, 1904.

LAYMEN AND ELECTRICAL TREATMENT.

To the Editors of THE LANCET.

SIRS,—It is unfortunately the practice of many members of the profession to send patients whom they may wish to be treated by some form of electricity or the x rays either to a layman for this purpose or to an institution owned and

managed by laymen. In London and in most of the provincial towns medical men who practise entirely in electro- and radio-therapeutics are to be found and yet these are time after time passed over while specialists and general practitioners continue to send their cases to laymen for treatment.

In some instances, no doubt, the medical man is not aware of the fact that he can procure all he wants for his patient in a legitimate manner, but I am sorry to say that he has not very often even this excuse for his conduct and considers that by being present himself for the first two or three sessions he has done all that is necessary. The fact is that in sending patients to unqualified persons for treatment the medical man doing so are guilty of covering and their presence during the sessions cannot, and does not, exculpate them from the onus of the charge. In order intelligibly to supervise any electrical or x-ray application a vast amount of technical and practical knowledge is necessary and the mere presence of a medical man, unless he is equipped with this knowledge, does not contribute to the safety of the patient or the success of the treatment. Now, Sirs, in the interests of the profession and the public at large it is very important that this part of medical work is not allowed to get into the hands of lay institutions entirely. One after another such institutions are springing up all over the country and where the professional man has too often a difficulty in making both ends meet they are like the green bay tree of Scripture, flourishing. By the encouragement and support given to them by medical men vested interests are being established which will be extremely difficult to combat in the future. Electrology and radiology have advanced greatly of late; the death-knell of those dainty little boxes of brass and ebonite and mahogany, known to the public by the all-embracing term of "battery" and to the medical man as a faradic coil, has sounded but there is still much to do and it is a little hard on those who have worked to raise electrology to the dignity of a science in the eyes of the medical profession that they should meet with so little recognition from their professional brethren and that the quack-loving peculiarities of the lay public should be manifest in the profession itself. At the present time I know of a large firm of chemists in London making several thousands a year by taking radiograms of patients, in most cases sent by medical men, and another firm who started to sell static machines and other electrical instruments and who are now giving up the sale of these machines because they find it much more profitable to treat patients sent to them by medical men than to sell these goods. Surely this is a crying scandal and deserves that every effort should be made to stop it.

I am, Sirs, yours faithfully,

July 20th, 1904. FAIR-PLAY.

THE INDIAN MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—I have to point out that compliance with the latest order of Lord Curzon's Government dealing with the relations between officers of the Indian Medical Service and certain of their native patients will make such medical officer liable to have his name removed from the Medical Register for conduct "infamous in a professional respect"—to wit, for betraying professional confidence to a third person—a civil political officer—and thus render the further retention of such an officer in the service illegal and impossible.

It is to be hoped that the General Medical Council will promptly take action on these lines on the very first opportunity and that medical officers will take the initiative by reporting such cases for action to the General Medical Council. This is the firm intention of

Yours truly,

June 30th, 1904. LIEUTENANT-COLONEL, I.M.S.

SHELL-FISH POISONING.—An inquest was held at Avonmouth on July 15th concerning the death of a waterman, aged 57 years. Evidence showed that the deceased had gathered and eaten mussels from the lock at Avonmouth and was taken ill shortly afterwards. It was stated that notices had been posted about forbidding the consumption of mussels and the deceased had been warned not to eat them by someone who saw him taking them. After hearing the medical evidence the jury returned a verdict that death was due to shell-fish poisoning.

TREATMENT OF DRUNKENNESS BY SUGGESTION IN RUSSIA.

EXPERIMENTS ON A LARGE SCALE OFFICIALLY SANCTIONED.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Paris, July 11th.

AT the thirteenth annual meeting of the Société d'Hypnologie et de Psychologie held recently, Professor Beaunis, of the Faculty of Nancy, being in the chair, an interesting communication was made by Dr. Legrain, chief physician of the Paris asylums for the treatment of mental disease. He had written to Dr. Korovine of the Moscow asylum for inebriates to inquire whether and to what extent the Government in Russia had sanctioned and encouraged the creation of clinics for the treatment of drunkenness by suggestion under hypnotism. The answer was that a special out-patient ward had been established more than three years ago for the gratuitous treatment of alcoholism in connexion with the clinic for mental diseases at the University of Moscow. At the clinic for mental diseases connected with the Military Medical Academy of St. Petersburg a similar ward was opened 15 months ago. Shortly afterwards the same sort of service was organised in one of the dispensaries of St. Petersburg. Then some nine months ago the Society of Women for the Protection of Health in its section for the Prevention of Drunkenness among Women and Children also provided a consultation room for the treatment of alcoholism. Rather more than a year ago the same thing was done by the Society for the Help of Labour of Yaroslav. Such institutions were likewise founded by the temperance societies for the cure of drunkenness at St. Petersburg, Moscow, Saratoff, Ekaterinoslav, Astrakhan, and Kieff. All these institutions are quite modern, only a few of them having been in existence for more than a year. In all the establishments the treatment consists of suggestion under hypnotism.

Dr. Korovine related that at St. Petersburg and other places no sooner had the authorities placarded the announcement that these wards for the treatment of alcoholism were open to the public than a great rush occurred and the few medical attendants present were perfectly overwhelmed by the number of patients. The difficulty became all the greater as practice soon demonstrated that it was not possible to hypnotise on an average more than four new patients or six old patients in an hour. Then as the patients are for the most part workmen who cannot absent themselves for long, it was necessary to inscribe their names and to send for a few of them at a time. It thus happened that some of the patients had to wait four months for their turn. These institutions are so new that there are no extensive statistics forthcoming as yet. At Moscow, however, where efforts to cure drunkenness by hypnotism have been made for more than three years and where the patients are watched for a year after treatment, the record is of some importance. It appears that there have been 22 per cent. of radical cures out of some 300 patients. From the dispensary of Ekaterinoslav we are told that out of 323 patients hypnotised 84·4 per cent. did not drink any alcohol for a week, 60·2 per cent. for two weeks, 33·8 per cent. for three weeks, 27·7 per cent. for more than a month, and only 3·1 per cent. abstained completely during the whole time of the treatment—that is to say, for six months. Dr. Korovine consequently thinks that in the more serious cases hypnotic suggestion must be associated with indoor treatment under restraint.

Dr. Bérillon of Paris, when commenting on this, explained that when drunkards asked to be hypnotised they were generally very amenable to the influence of suggestion, but at a given moment they suddenly changed and it was no longer possible to hypnotise them. If careful inquiry were then made it would be found that they had been drinking. Sociability and suggestibility, Dr. Bérillon maintained, were identical. Persons who drank were no longer sociable; they only obeyed their own impulse. It was necessary to wait until they were quite sober and to treat them when they were fasting.

Speaking on this subject to Professor Forel at the Canton Zürich lunatic asylum some years ago, he informed me that he no longer suggested to drunkards that they should not drink. Professor Forel, it need scarcely be mentioned, is one of the best known authorities in Europe on hypnotism

and is also a very ardent temperance advocate. The suggestion not to drink had an influence; but for the one suggestion made at rare intervals under hypnotism there was the hourly suggestion of the man's life, habits, and companions. The contest was too unequal in spite of the power of suggestion under hypnotism. Consequently Professor Forel directed his suggestions not against drink but against the social habits and companions of the individual. He did not tell the drunkard not to drink but to change his social surroundings, to associate with non-drinkers, and finally to join a temperance society. When this had been achieved then a direct suggestion against drinking might be of lasting effect. In any case, drunkenness is such an evil that any experiment conducted under proper and qualified auspices and on a sufficiently extensive scale to provide statistics worthy of consideration must be welcome. The Russian experiment will therefore be watched with interest. The following official poster shows how the matter has been presented to the general public; it was issued by a committee of the St. Petersburg municipality appointed to propagate temperance doctrines. This circular has been extensively distributed and posted. It says:—

Drunkenness and the abuse of drinks which contain alcohol produce upon certain persons a dangerous morbid condition. This is called "alcoholism" and it causes much suffering and ruin.

By acting upon the brain alcohol may entirely modify the character of man and produce the decadence of all his intellectual faculties and even madness. It is the will-power that alcoholism more particularly affects. The will is so greatly enfeebled, that even if desirous of liberating himself from his intemperate habits the patient has not the strength to accomplish his purpose.

There now exists, however, a new method of treating alcoholism. It is known as hypnotic suggestion by which the medical practitioner acts upon the conscience and will of the patient.

By means of suggestion the medical man succeeds in guiding the will in the right direction, in giving the will the necessary vigour so that the patient may without difficulty maintain his resolution not to drink again. It is also possible through suggestion to free the alcoholic patient from the unwholesome craving, the insomnia and nausea by which he is tortured and which generally cause him to drink again.

Anxious to provide for such patients all the possible means of cure so that they may deliver themselves once and for all from their fatal passion, the St. Petersburg municipal committee for the popular promotion of temperance has opened the ancient glassworks as a consulting-room for out-door patients who desire to be treated for alcoholism by suggestion.

The admission of the patients is gratuitous. ..... Entrance in the Gloukhoozerskaia-street. On Mondays, Wednesdays, Fridays, fête days included, from 7.30 to 8.30 P.M.

Authorised by the Censor, June 5th, 1903.

The regulations and instructions to be given to each patient were drawn up and are signed by Dr. A. Oppenheim who is president of the sanitary commission of the town. They were approved at the meeting of the municipal sanitary commission of St. Petersburg held on August 20th, 1903. The following are some of the more important passages:—

1. The first condition of success in the treatment of alcoholism by suggestions is that the drinker shall be *sincerely* desirous of liberating himself from his unhealthy craving for spirituous liquors.
2. The time of treatment will be arranged after the patient's name has been entered in the books.
3. From the day his name is thus inscribed up to the end of the treatment he is advised to abstain as much as possible from all alcoholic drink, such as brandy, beer, wine, &c.
4. It is absolutely obligatory that the patient shall not drink any alcohol whatsoever from the morning of the day he comes up for treatment.
5. The duration of the treatment, according to the gravity of the case, may vary from a few weeks to several months.

As a rule, the patients are at first hypnotised three times a week and this is done less frequently as the suggestions take effect. The methods and rules mentioned as relating to St. Petersburg apply to the other towns where similar efforts are made to cope with the curse of drink.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Demand for a further Plague Commission.—The Decline of the Present Outbreak.—The Tata Research Institute.—Non-attendance of Women at Dispensaries.—Overcrowding in Jails.

THE leading papers in India have joined in an appeal to the Government for a scientific inquiry into the etiology and epidemiology of plague. The disease has been eight years in India, during which time there has been a steady extension of the infected area until now it includes the greater part of the country. The work of the Plague Commission is already out of date and its report was not sufficiently based on original research. The country can hardly be said to have benefited by it except it be in the amelioration of the plague measures which have since been in force. Much work has been done in Hong-Kong, Sydney, and other places and the time has come for a great inquiry along different lines. We have just passed through a season of exceptional mortality and there does not appear to be any hope that we shall escape a similar mortality during the next year. The present policy is one of *laisser faire* and there is a general feeling that more should be done than is at present being done.

The mortality from plague throughout India for the week ending June 18th has fallen to 5929 as compared with 7762 deaths for the previous seven days. The Punjab had 4946 deaths, as against 6491; Bombay districts, 361, as against 416; Bengal Presidency, 128, as against 133; United Provinces, 126, as against 229; Mysore State, 199, as against 165; Bombay city, 56, as against 74; and Calcutta, 31, as against 36.

The sudden death of Mr. Tata threw some doubt upon the future of the great Research Institute. It is satisfactory to learn that he has left a will by which his heirs and trustees are required to carry out his behest. Details in the scheme not having been settled it has been kept in abeyance for a long time. Medicine and the allied sciences will be well represented and besides attracting some of the best talent in the world it should add very largely to the material interests of the country.

The seclusion of women in their homes, not attending hospitals and dispensaries for treatment, seems to be fostered more by their male proprietors than by the women themselves. The provision of separate consulting rooms in dispensaries upon which so much stress has been at times laid has not been successful in Assam, as a recent report shows that there has been no increase in the attendance of women.

The burden of nearly all recent reports of jails has been overcrowding. In Bombay this has been more serious, eight out of 15 prisons in the province being overcrowded. In Bombay city the common gaol has provision for 180 but the daily average of inmates was 407. The death-rate of 49 per 1000 is not surprising but it must be compared with the average for the Presidency of 25. The building is said to be very defective from a sanitary point of view. In other parts of India overcrowding is also reported and when this is the case the mortality is almost invariably very high. Identification of prisoners by finger-tip impressions has now been widely utilised and industrial enterprises have met with considerable success. It is regrettable, however, that the opportunities offered by jails for the scientific study of medicine are not more fully taken advantage of. It is only here and there that an original worker makes use of the abundant material at his disposal and there is no organised inquiry into the many Indian diseases which await solution.

June 30th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of the Liverpool Convalescent Institution: A Generous Donation.

THE annual meeting of the subscribers to this institution was held at Woolton on July 9th under the presidency of the Lord Mayor. There was a large attendance of ladies and gentlemen interested in the institution and much pleasure was evinced at the announcement that Sir William Tate had given 13 additional acres of land to the estate. This will secure a park-like demesne in front of the institution and provide in perpetuity that amount of fresh air which is so essential to the welfare of the patients. The house now stands in 70 acres of ground and at present there are 155 patients. The report stated that the number of convalescents who had passed through the institution in 1903 was as follows: male, 1370; and female, 1361; making a total of 2731, which was almost the same as in the previous, and record, year. The financial position is thoroughly sound. The year commenced with a sum in hand of about £560, and taking the receipts—which include the special donation of £500 from the Transvaal War Fund Committee—and deducting expenditure there was on Dec. 31st last a balance of upwards of £900 to the credit of the institution. That amount would

be reserved towards the cost of carrying out the scheme for laying out the grounds and providing outdoor shelters. Special attention was drawn to the fact that the payments by and on behalf of patients for admission forms and extension of time remained about the same, and considering the free use made of the nomination and recommendation forms by subscribers it was very satisfactory that the amount was maintained. £352 were received from the Hospital Saturday and Sunday Fund. The council had taken into consideration the advisability of laying out the field in front of the buildings as pleasure grounds by making footwalks and planting trees, flowers, and shrubs, and providing rustic shelters. Each year the appearance of the grounds as they improved by the growth and development of the trees and shrubs would be an additional inducement to patients to remain as much as possible in the open air—a most important part of their treatment—and for that reason would amply justify the present outlay and also further increase the popularity of the institution.

Liverpool Infirmary for Children.

The rebuilding of this charity is to be commenced shortly. Mrs. Barron of Waterloo has promised £1000 towards this object, but £5000 more are wanted before any portion actually workable can be completed and a further sum of £25,000 will be needed in order to complete the scheme. The total cost is estimated at upwards of £60,000.

Liverpool School of Tropical Medicine and the British Medical Association.

The *Liverpool Daily Post* states that the Council of the British Medical Association has felt itself unable to make a grant to the School of Tropical Medicine, which has caused some surprise in medical circles. Probably the reasons are to be found in the fact that the Council is making a strong appeal to the Treasury to establish a national fund for the purpose of stimulating research in tropical medicine.

July 19th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Health Report.

ONE of the features of Dr. Edward Walford's annual reports has always been the inclusion of a large number of statistical tables referring to a long series of years. One such table in his recently issued report for 1903 shows that in 1852 when Cardiff had a population of only 19,724 persons the death-rate from all causes was 31·4 per 1000 and from the principal zymotic diseases 8·8 per 1000. In 1903 with a population of 172,598 the death-rate from all causes was 14·4 per 1000 and from zymotic diseases 1·3 per 1000. The infantile mortality-rate in 1903 of 122 per 1000 births was the lowest ever recorded in the borough, the average rate in the previous ten years having been 159 per 1000 births. Dr. Walford deals at some length with the question of isolating cases of scarlet fever in hospital. He deprecates a comparison of results in different towns where the social conditions, age distribution, and opportunities for personal infection are not always the same and he thinks that a better method is to compare the statistics of the same town at different periods during which the amount of hospital isolation may have varied. Taking for Cardiff two five-year periods he states that in the first period, 1890–1894, there were isolated in hospital 16 per cent. of the cases occurring in the town, the attack rate was 6·1 per 1000, and the death-rate 0·28 per 1000. In the second period, 1895–99, there were isolated 50·3 per cent., the attack-rate was 3·5 per 1000, and the death-rate 0·08 per 1000. There is thus in Cardiff some statistical evidence of the advantages of hospital isolation. Dr. Walford is of opinion that the benefit to the community of isolation may be shown in other ways than statistically. For example, in educational matters it is of the utmost importance that the school attendance in a district be interfered with as little as possible. The removal to hospital of the first cases of scarlet fever in a household will prevent the necessity of keeping other members of the family not attacked with the disease away from school. There are also certain trades to which special legislation applies, such as milk-sellers, tailors, trades connected with the manufacture and sale of wearing apparel, and laundries which might be kept at a complete standstill unless an infected person were removed from the premises. Contrary to the experience of some other districts the scheme of voluntary notification of cases of phthisis has been successful in Cardiff. In 1902 there were notified 109 cases and in 1903 the number had increased to 163. Each case notified is visited in the first instance by the woman inspector on the sanitary staff and subsequently by the medical officer of health. The public health laboratory is placed at the disposal of the medical practitioners of the town for diagnostic purposes.

Swansea General and Eye Hospital.

This hospital, which is the oldest in Glamorganshire, was established in the year 1817. There is accommodation in the wards for 130 patients and according to the report of the board of management for the year ending June 30th, the average number of beds occupied daily during that period was 112 compared with 101 in the previous year. In September last the daily average was 126, but in view of the limited income available the board has decided that not more than 110 beds should be occupied at one time. The income of the hospital during the past 12 months was £6334 and the expenditure £7062. The adverse balances now amount to £1677. The weekly cost per bed, including the whole of the administrative expenses, was £1 3*s.* 1*d.* As this sum covers the expenditure upon the out-patient department there would appear to be very careful and judicious administration on the part of the officers of the institution.

Cardiff School for Midwives.

In October next classes for the instruction of midwives will be held in connexion with the medical faculty of the Cardiff College of the University of Wales. It is anticipated that students will attend these classes from the counties of South Wales, Monmouthshire, and Herefordshire.

Gloucester Workhouse.

At the meeting of the Gloucester board of guardians, held on July 12th, a letter was read from the Local Government Board stating that its attention had been called to a newspaper report of a recent meeting of the guardians of the Gloucester union, at which certain allegations were made with regard to the treatment adopted in respect to restless paralytic cases in the wards of the workhouse infirmary. The Local Government Board added that "sleeping draughts" should never be administered unless ordered by the medical officer; nor should mechanical restraint be employed except in cases of emergency, when the directions of the medical officer could not be obtained. The Board, in conclusion, requested that these views should be brought before the officers of the union. A guardian subsequently remarked that some of the patients were tied to the bedstead.

July 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Local Government Board and Poor-law Medical Officers.

IN pursuance of its declared intention to lessen the number of the Poor-law medical officers in connexion with the decrease in the population of Ireland the Local Government Board has recently addressed the following letter to the Birr board of guardians:—

Dublin, July 8th, 1904.

SIR,—With reference to an entry in the minutes of the proceedings of the Birr board of guardians on June 4th, the Local Government Board for Ireland request that the guardians will be so good as to appoint a committee to inquire and report whether the post of medical officer of the Birr dispensary district could be abolished without inconvenience to the sick poor, and the medical officer of the Killyon dispensary district placed in charge of the two dispensary districts at an increased salary. The population of the Birr dispensary district in 1871 was 7760, whilst that of the Killyon dispensary district was 2001. In 1891 the population of Birr was 6310, and of Killyon 1449, making a total of 7759. It appears to the Local Government Board that the guardians have now an opportunity of dealing satisfactorily with the question of the increased remuneration of one of their medical officers without inflicting any real hardship on the sick poor, or imposing further burdens on the ratepayers of the union. The guardians should not take any steps towards appointing a medical officer of the Birr dispensary district pending the proposed rearrangement of the dispensary districts.

Your obedient servant,

H. M. SWAINE, Secretary.

At a meeting of the guardians held on July 9th a

motion was passed approving of the amalgamation of Birr and Killyon dispensary districts and appointing a committee to carry out the necessary details.

Salaries of Dispensary Medical Officers.

The hard-and-fast rule of the Irish Medical Association that medical men should not accept any dispensary appointment at a less salary than £200 a year does not seem to have proved a practical success. At a meeting of the Wexford board of guardians on July 9th, notwithstanding a resolution passed by the local branch of the association that a salary of less than £200 should not be accepted, Dr. Ryan was appointed to the Taghmon district at a salary of £130. On the other hand, the dispensary district of Ardee, which is said to cover 40 square miles with a salary of £130, has remained vacant for 18 months. It is satisfactory, however, to note that the Local Government Board shows some slight indications of altering its rigid system. A letter was addressed to the guardians of the Ballinasloe union on July 1st in which the Board states that it is prepared to consider any reasonable scale of salary which may be formulated applying to the entire dispensary medical staff of the union, such scale to provide a minimum initial salary rising by increments of quinquennial periods of approved service to a fixed maximum which might be allowed after, say, 25 years' good service.

Workhouses and Matrimony.

The clerk of the Lisburn union has received a letter from the Local Government Board pointing out that it is impossible for a nurse to discharge her duties with efficiency during the period immediately preceding and for a considerable time after her confinement, and consequently, after careful consideration of the question, it feels that in the interests of the sick poor nurses must hold their appointments in accordance with a fixed rule in the public service requiring female officers to resign their appointments on marriage. The Local Government Board requests that this decision shall be communicated to the female staff of the Lisburn workhouse.

Medical Officers and their Fees.

The case of Dr. J. M. Heron *v.* the Downpatrick Guardians (details of which appeared in THE LANCET) came before Mr. Justice Wright (as an appeal from the county court judge) at the Down assizes on July 16th when the judge confirmed the decision of the Lower Session Courts. It appeared that on May 25th, 1903, the medical officer of Strangford, Dr. F. P. MacLaughlin, requested Dr. Heron of Downpatrick to attend a midwifery case in his district which he was prevented himself from attending in consequence of his having been recently present at a case of an infectious nature. He informed Dr. Heron that two medical officers of the union had already refused to attend the case and asked Dr. Heron what his fee would be if he was present, telling him that if he was unable to attend he would be obliged to wire to the Secretary of the Local Government Board asking for directions. Dr. Heron said he would be pleased to attend on receiving two guineas and six shillings for car hire, which was the fee agreed upon for cases of this character by the medical officers of the district. Dr. MacLaughlin promised to report the matter to the guardians who subsequently sent Dr. Heron a paying order for two guineas but refused to pay the sum of six shillings for car hire, saying that they were prevented from doing so by the scale which had been drawn up by the guardians and approved of by the Local Government Board. Dr. Heron contended that, as he had been summoned at the instance of a medical officer of the union, the case did not fall within any of the articles of the Local Government Board to which the scale of fees applied. The judge decided in favour of the guardians.

The late Dr. W. A. McKeown.

At a meeting of the board of management of the Benn Ulster Eye, Ear, and Throat Hospital held on July 18th (the Dean of Connor presiding) a resolution of regret for the death of Dr. McKeown and of sympathy with his family was passed. The board has decided that, pending the appointment of Dr. McKeown's successor, the work of the hospital should be carried on as usual by Dr. W. M. Killen and Dr. R. Allen, who were the assistant surgeons. The Royal University Graduates' Association has also passed resolutions expressive of the great and serious loss which it has sustained in Dr. McKeown's death. He was the president of this association and did a great deal of work for it.

The Senate of the Royal University.

Through the deaths of Professor Allman, LL.D., of Galway, Mr. E. Dease, M.A., of Queen's County, and Dr. W. A. McKeown there are now three Crown appointments vacant and, curiously, each of the three is of a different religious denomination. In Ireland this must always be recollected.

July 19th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Aneurysm with Solution of Gelatin.

AT a meeting of the Academy of Medicine held on July 5th M. Lancereaux stated that among 1000 injections of "*sérum gelatiné*" he had not observed any mishaps. He showed three patients who had improved remarkably under this treatment. In one of them the aneurysm caused considerable external bulging which, however, disappeared, and in the two others the volume of the mass was greatly reduced. Similarly favourable results were observed in 15 other cases. Pressure effects and pain were relieved. The solution consisted of 25 parts of gelatin and 7 parts of chloride of sodium dissolved in 1000 parts of water. The amount injected at a time was 200 grammes and the process was repeated every four or five days. Thorough sterilisation in an autoclave under pressure at a temperature of 105° or 110° C. was necessary. In conclusion, M. Lancereaux said that the treatment of aneurysms of the aorta by injections of gelatin was in no way dangerous if the operator was careful to use solutions of gelatin of good quality and thoroughly sterilised. These injections promoted the coagulation of blood in the aneurysmal sac and in that way exercised a beneficial effect in such cases. Accidents resulting from the treatment—attacks of tetanus, for instance—have always been due either to the use of solutions made with gelatin of bad quality or to insufficient sterilisation. M. Regnier said that he agreed with the opinions expressed by M. Lancereaux. He had treated two severe cases with marked success.

Origin and Prophylaxis of Appendicitis.

At the same meeting of the Academy of Medicine M. Lucas-Championnière once more introduced the subject of appendicitis, especial reference being made to proofs of the present frequency of the disease. M. Lucas-Championnière is convinced that the uncertainty and the divergence of opinion with respect to appendicitis depend largely on the fact that it is really a new disease. It appears in certain regions in certain families. It may follow influenza and is far more often associated with intestinal infections. Influenza may appear to be its starting point but in such cases it occurs almost exclusively in countries where there is an undue consumption of animal food. When appendicitis had established itself he considered that it could only be treated by a surgical operation but it might be prevented by the use of a diet mainly of a vegetarian character or by a return to the practice of periodical purgation. Investigations made by M. Lucas-Championnière have proved that before the appearance of influenza symptoms attributable to appendicitis were rare and that the advent of appendicitis was subsequent to that of influenza. It was, however, in meat-eaters that appendicitis following influenza was most frequently met with. Among vegetarian populations appendicitis was extremely rare or altogether absent and it increased in proportion as the consumption of meat increased. Interesting statistics on this point were supplied from Roumania, where among the vegetarian portion of the population there was one case of appendicitis among 22,000 patients, whilst among the meat-eating portion of the population there was one case among 221 patients. The inmates of prisons and institutions in which the food was almost exclusively vegetarian were almost exempt from appendicitis although they were exposed to influenza. Similar results were shown in the experience of convents and educational establishments. From these facts it might be concluded that meat-eating favoured intestinal complaints and the occurrence of appendicitis after influenza, that a reduction in the consumption of animal food was advisable, and that purgation was a prophylactic against that class of diseases.

Suture of Arteries.

At a meeting of the Surgical Society held on July 5th Djemil Pasha of Constantinople contributed a paper on the Suture of Arteries. On three occasions he has sutured large arteries (the axillary and the external iliac) which had been opened during operations for the removal of glands and in all three cases he had obtained an excellent result. The patients did not suffer from either thrombosis or secondary hæmorrhage or traumatic aneurysm and the circulation in the limbs was completely re-established. Djemil Pasha therefore considered that in cases of longitudinal wounds of large arteries—such as the carotid, the axillary, the iliac, and the femoral—suturing was very much better than ligaturing, for the latter operation might have serious results, especially when the carotid arteries were in question. Suturing, however, was only applicable when the longitudinal wounds of the arteries were comparatively short, not exceeding two centimetres (three-quarters of an inch) in length. He was of opinion that sutures which did not pass through the arterial wall were untrustworthy and that the best method was to use fine silk sutures traversing the arterial wall whereby an exact apposition of the edges of the wound in the vessel was obtained. Above these the arterial sheath was closed by a second series of sutures which gave additional security.

Monument to Dr. Noel Ballay.

A monument has just been erected at Chartres to Dr. Noel Ballay, formerly governor of French West Africa, who received a national funeral. In 1900, while on leave of absence, he learned that plague had broken out in the colony and was causing a serious mortality among the colonial officials and the native population. He therefore immediately returned to his post and in the end of the following year fell a victim to the climate. The monument is very simple, consisting of a bust supported on a pillar. It was unveiled on July 14th.

Death of Professor Trasbot.

Professor Trasbot, formerly director of the Alfort School, died on July 18th at the age of 72 years. He had been a member of the Academy of Medicine since 1886, in the veterinary section of which he was *doyen*. He was the author of some valuable works, relative mostly to equine pathology, to epidemic diseases, to sanitary administration, and to certain duties of the police in rural districts.

July 19th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Japanese Surgeons and Russian Patients.

AN interesting article on surgical work in the Russo-Japanese war has been published in a recent number of the *Deutsche Medicinische Wochenschrift*. The author is Dr. Wada, fleet-surgeon in the Japanese navy and chief medical officer of the Kanjo Hospital and the Red Cross Hospital at Chemulpo in Korea; the patients whose cases he describes were Russian sailors wounded in the naval battle of Chemulpo, where two Russian men-of-war, the *Korietz* and the *Variag*, were destroyed. Of the Russian crew 100 were wounded, the majority being taken on board the French cruiser *Pascal* and the others on board the British and Italian men-of-war *Talbot* and *Elba*. Seven months ago a committee of Japanese ladies belonging to the Red Cross Association made preparations at Chemulpo for the treatment of the wounded in the event of war being declared. The wounded Russians at first declined to leave the French ship, but eventually 24 of them were taken ashore. They told the Japanese surgeons that the hospital arrangements on board the Russian ships were very defective and that there were only five hospital beds for a crew consisting of 26 officers and 556 men. The Russian medical officers were said to be so perplexed by the sudden commencement of the action that they had some difficulty in attending to the wounded and the chaplain was said to have been intoxicated during the battle. Moreover, the conditions experienced on board the French vessel were not of the best, the patients being placed in a small damp room and supplied with inadequate food. The state of the patients confirmed this account, for their wounds were suppurating and had an offensive odour; some were even gangrenous. Dr. Wada says that the Japanese shells exploded when they touched the water or the human body and burst into 1000 small pieces without evolving noxious gases. In most cases the fragments of shell had been removed by the French medical officers, but there were a few patients from whom Dr. Wada withdrew pieces of iron of the size of a small finger. The wounds were nearly all complicated by fractures of the bones but there was only one instance in which a fragment of shell was found in a bone. The wound of entrance was of a circular form and the surrounding tissues showed extensive ecchymosis. There were one case of hæmoptysis, one of bronchial asthma, and one of erysipelas. The gangrene and the suppuration were due to the defective primary treatment of the wounds and a change for the better soon took place when the men were conveyed to the Japanese hospital. Dr. Wada used dry sterilised gauze for dressing when the wounds were aseptic; for the gangrenous wounds gauze moistened with carbolic acid solution was used and the dressings were changed several times a day, the result being that good granulation appeared in a few days. In fractures of the long bones pasteboard splints were used, plaster dressings being avoided as much as possible; in fever, quinine and antipyrin, together with wine and cognac, were administered. The results of the treatment were very satisfactory as only two men died. Some of the patients still have pieces of shell unextracted which must eventually be located by radiography. Dr. Wada says that it would be advisable before an engagement to make the crew bathe and to give them clean clothing which, if possible, should be sterilised by steam. He finally remarks that some of the Russians used to cry when the wounds were dressed, but Japanese soldiers never do so. The article as a whole gives a good view of the ardour and the forethought which have animated the Japanese medical officers as well as the other branches of the Japanese forces.

Professor Robert Koch.

Professor Koch will vacate his appointment as chief of the Royal Institution for Infectious Diseases on Oct. 1st. His present position, it is understood, includes a good deal of administrative work, so that he has not sufficient time for scientific research. He will, however, continue to be connected with the institution, which was created on his advice; by special order of the Government he will have on the premises a laboratory furnished at the public expense and the clinical material will always be at his disposal. Moreover, he has received the greatest honour which can be bestowed on a *savant* in Germany, for he has been elected a member of the Royal Academy, a scientific body which consists of only some 20 men distinguished in various departments of knowledge and to which only two or three medical men belong. Professor Koch will succeed the late Professor Virchow as a member of the academy. His successor as chief of the Institution for Infectious Diseases will be Professor Gaffky, now in Giessen, one of Professor Koch's early assistants. Professor Gaffky accompanied him in his first expedition for the study of cholera in India in 1883 and was afterwards the chief of the Imperial Commission for the study of bubonic plague in that country in 1897. In 1884 he succeeded Professor Koch in his appointment at the Imperial Health Office, and in 1888 he was made ordinary professor of hygiene in the University of Giessen. His scientific work includes researches on septicæmia, enteric fever, and anthrax.

A Dispensary for Cancerous Patients.

The committee for the study of cancer held a meeting on June 30th, Professor von Leyden being in the chair. It was decided to establish a dispensary for cancerous patients in connexion with the Charité Hospital after the pattern of the "dispensaires antituberculeux." The work of these latter dispensaries, suggested by Dr. Calmette of Lille, has already been described in THE LANCET and consists especially in advising the sufferers as to personal hygiene, selection of food, and subjects of that kind. Asylums for patients suffering from advanced stages of cancer are also to be erected, the necessary means having been already placed at the disposal of the committee by private benefactors.

July 19th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Clinical Meeting in Zürich.

AT a clinical meeting which took place in Zürich on July 12th Dr. Naegeli showed a number of slides illustrating

hæmological diagnosis with regard to simple anæmia, pernicious anæmia, different forms of leukæmia, and pseudo-leukæmia. He said that the examination of the blood assisted the diagnosis of lead poisoning and diagnosis between typhoid fever and scarlet fever. In typhoid fever there were scarcely any eosinophile cells to be found and there was no leucocytosis, whereas in scarlet fever the eosinophile elements were increased. —Professor Eichhorst discussed the diagnosis of gastric disturbances and recommended Dr. Citron's acidometer as a simple instrument for determining the amount of acidity and of free hydrochloric acid in gastric juice. He also exhibited Dr. Ficker's apparatus for blood reaction in cases of typhoid fever and showed an extreme case of generalised ichthyosis and a case of tubercular lepra.—Professor Kroenlein gave a *résumé* of the results obtained in the 627 cases of appendicitis which he has now operated on. In 402 cases the operation was performed in the quiescent interval without a single death. In 150 cases operated on during an acute attack, which, however, was localised, six deaths occurred, a mortality of 4 per cent.; whereas out of 75 cases operated on when general diffuse peritonitis had supervened only 22 cases recovered, so that the mortality was 70 per cent. He was very averse to the use of opiates as the relief afforded in that way masked severe symptoms and he recommended early operative interference. He also referred to his method for total resection of the upper maxillary bone for malignant tumour. He was struck by the fact that half a century ago, before anæsthetics were in use, the mortality after this operation did not exceed 20 per cent., whereas in the present day, notwithstanding the use of antiseptics and improved methods of operation, it has risen to 30 per cent. (see latest edition of "König's Surgery"), and he came to the conclusion that narcosis must be avoided as much as possible. His operative results have been most remarkable, as he lost only one patient out of 40, and in that case a sarcoma had already invaded the cranium and the brain tissue. He showed a woman, 73 years of age, on whom he had performed this operation and for the first time had made use of primary resection of the second part of the trigeminal nerve at the base of the brain.

Zürich, July 18th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT).

The Bubonic Plague.

BUBONIC plague continues in Brisbane and Sydney. The infected area in Sydney appears to be enlarging, judging by the discovery of infected rats in the suburbs. Seven cases have occurred since the beginning of the present outbreak. Four fresh cases have been reported from Brisbane and large numbers of infected rats have been caught. The health commissioner, Dr. B. B. Ham, has complained that the Government dispensed with 20 rat-killers and consequently he cannot properly cope with the work of the destruction of rats. No cases have occurred in any of the other States where the destruction of rats is vigorously prosecuted.

Quarantine Laws.

The Prime Minister of the Commonwealth has suggested that an inter-state conference of medical officers should be held to report as to the measures necessary to prevent the introduction of infectious disease into the Commonwealth from foreign parts and for the unification of the quarantine laws.

Infectious Disease in Victoria.

At the last meeting of the Board of Public Health of Victoria the following statistics were submitted:—For the whole State 115 cases of typhoid fever were reported, nine of which terminated fatally, as against 145 cases and four deaths in the same period of 1903. For the metropolitan area there were 27 cases of typhoid fever, three of which were fatal, compared with 36 cases and no deaths in the same fortnight last year. For the whole State 140 cases of diphtheria, five of which ended in death, were reported, as against 73 cases and two deaths in the same fortnight of 1903. In the metropolitan area there were 53 cases of diphtheria, five of which were fatal, as compared with 32 cases and no deaths in the same period last year. For the whole State 136 cases of scarlet fever, one of which ended in death, were reported, as against 145 cases and two deaths in the same fortnight of 1903. For the metropolitan area there were 76 cases of scarlet fever, none of which were fatal, as compared with 95 cases and two deaths in the same period of last year. The Government statist's returns for the last 20 years showed that in the first ten years of the period there were increases in cases of measles, diphtheria, whooping-cough, typhoid fever, and phthisis, but in the ten years ended in December, 1903, there had been decreases of ten in cases of measles, 128 in diphtheria, 16 in whooping-cough, 156 in typhoid fever, and 131 in phthisis and tuberculosis.

Health of Melbourne.

The annual report of the health officer of the city of Melbourne (Dr. Jamieson) has been published. It appears that the estimated population of the municipality in 1903 was 67,260. The total number of deaths was 931, as compared with 1075 for 1901 and 1012 for 1902. The rate of mortality for the year was 13·8 per 1000. The mortality tables for the city during the last 20 years show a steady decrease. Between 1885 and 1890 the death average was 19·4 per 1000; between 1891 and 1896, 15·96 per 1000; and from 1897 to 1903, 14·48 per 1000. The mortality arising from epidemic diseases was not serious last year. Typhoid fever, diphtheria, scarlet fever, measles, whooping-cough, and influenza all together proved fatal in 27 cases only. The deaths from typhoid fever and diphtheria have fallen from 125 in 1889 to ten in 1903. Tuberculosis causes a higher rate of fatality than all the epidemic diseases taken together. Last year 153 persons in Melbourne city died from tuberculosis. Nevertheless, here, too, a decrease in mortality is being shown. The deaths from tuberculosis in the period 1889-93 were 29 per 10,000; in 1899-1903 they were 21 per 10,000. Dr. Jamieson ascribes the lessened fatality to general sanitary improvement, to better drainage, to better ventilation, to greater care with reference to food-supplies, and to the education of the public in means of disinfection and prevention. The number of births in 1903 was 1213, a number rather below the average of the last few years. The rate of infant mortality, however, is unprecedentedly low, being only 105 per 1000 births.

Outbreak of Cerebro-spinal Meningitis.

An epidemic of cerebro-spinal meningitis has occurred at Albury, New South Wales. Children have chiefly been attacked but two adults died from the disease.

The Declining Birth-rate.

As a result of the report of the Birth-rate Commission the Australian Social Reform League is arranging for a conference, to be held in Sydney, to discuss the recommendations of the Commission and to urge the Government to give effect to them by legislation. Religious bodies and all organisations interested, including the medical profession, are to be asked to appoint representatives. In the *Intercolonial Medical Journal* for May is a paper on the Decline of the Birth-rate in New South Wales, by Mr. J. B. Trivett, Actuary of Friendly Societies, in which the views of Mr. M'Lean, that the decline is due to natural causes, are trenchantly attacked. It is shown that in quinquennial age groups of married women living in each of the four decades ended 1901, in the first two decades there is a most striking resemblance between the birth-rates in each group but in the two next decades there is a very serious decline which is absolute and irrespective of change in age constitution and age at marriage, as maintained by Mr. M'Lean. Next, by tracing the *same* women, it is shown that the fertility of immigrants has declined as against the standard of previous years, and the statement of Mr. M'Lean, that "the cessation of immigration is responsible for the decline," is thus disproved. Finally, an examination of the facts for New South Wales for the past 40 years leads Mr. Trivett to deny Mr. M'Lean's statement that a high birth-rate and a high infantile mortality are intimately associated.

Boric Acid in Milk.

It will be remembered that about a year ago the Board of Health of New South Wales framed regulations under the Health Act practically prohibiting the use of preservatives in milk and other foods. The representatives of manufacturers of concentrated milk applied to the board for an exemption for concentrated milk, as it could not be made under the prohibitive regulations and it was in demand in the interior where fresh milk could not be obtained. The board refused the exemption. Then a select committee of

the Legislative Assembly was appointed to inquire into the use of preservatives in milk. This committee reported to Parliament: "That the use of 35 grains of boracic acid to the pound of butter, and 35 grains of boracic acid to one pound of concentrated milk, and 18 grains of boracic acid to the pound of table cream, will cause no injury to health and should be permitted." The day following—Nov. 25th—Parliament rose and the report was not considered. Early in January the representative of a milk company was prosecuted for using boric acid in concentrated milk and was fined. The company applied to the Minister of Justice to remit the fine but the Minister did not do so. The Minister said, however, that the question was under consideration. He also informed the Chamber magistrate that the case was under consideration. On Feb. 24th, the fine not having been paid within the time allowed, application was made to the Chamber magistrate, Mr. Jennings, for a warrant to commit Purbrick, the representative of the milk company, to prison for non-payment of the fine. The magistrate refused as he had been instructed by the Minister of Justice not to issue a warrant pending inquiry. The Minister then wrote to the Board of Health for its opinion as to the desirability of suspending the regulation, pending the final determination of Parliament. The board in its reply traversed the report of the select committee which, it maintained, was based on insufficient evidence, and finally stated that it could not recommend the suspension of the regulation now or at any time. The report of the board was considered by the Cabinet and it was decided to follow the advice of its expert advisers and not to remit the penalty imposed on the milk company. In the meantime, on May 16th, an application was made to the Banco Court for a *mandamus* directing Mr. Jennings to commit Purbrick to prison. The fine was paid and the defendants submitted to any order the court might make except as to costs. The Chief Justice, in delivering the judgment of the court, said he had no doubt that the rule *nisi* for a *mandamus* must be made absolute, with costs, not only against the respondent Purbrick, but the magistrate also. It was perfectly clear that the magistrate utterly misunderstood his position as justice of the peace. By the Section 19 of the Justices Act (27 of 1902) he was sworn to administer justice without fear, favour, affection, or ill-will, and he had no more right to take instructions from the Minister of Justice in this matter than from any individual in the street; and the only way to make magistrates understand their duty and that they were not to take instructions from a government or any member of a government was to make the particular magistrate pay costs. Whether he should be deprived of a commission which he did not understand was a matter with which the court had no concern. The *mandamus* must be granted with costs against both respondents, and he could not understand the Minister of Justice giving such instructions as were mentioned in the affidavits.

Hospital Affairs.

A new operating theatre, on the most approved lines, has just been opened at the Women's Hospital, Melbourne. The floor is of marmor-terrazo, the walls are tiled, and the lighting is good. A full sterilising plant is provided.—The newly appointed committee of the Infectious Diseases Hospital, Melbourne, has held its first meeting. A number of subcommittees were appointed. Instructions were given to the furnishing subcommittee to proceed at once with the work of fitting up the hospital. It was stated that it would be possible to treat only one form of disease at a time, as there were only two wards, one for males and one for females.—The foundation stone of the new Royal Alexandra Hospital for Sick Children, Sydney, was laid by Lady Northcote in the presence of a large and fashionable gathering.

Death of Dr. S. D. Bird.

One by one the notabilities of the older generation of medical men of Australia are passing away. On May 14th died one of the old leaders of medicine in Victoria, Dr. Samuel Dougan Bird. He was born in Lichfield in 1832 and was apprenticed to a practitioner at Lowestoft. His medical studies were completed at King's College School and Hospital, where he acted as dresser to Fergusson and clinical clerk to Todd. After qualifying Dr. Bird held a resident appointment at the Brompton Hospital for Diseases of the Chest. On the outbreak of the Crimean war he accepted a position on the British medical staff with the Turkish army, and for his services received the Crimea war medal, the Sebastopol clasp, the Turkish war medal, and the Order of Medjidieh. On the declaration of peace Dr. Bird returned to England and practised in Richmond. Owing to failing health he came to Melbourne in 1861. He soon established a large and successful practice, being recognised as an authority on chest affections. He was one of the original physicians to the Alfred Hospital and was for many years a lecturer at the University of Melbourne, first on materia medica and therapeutics, and subsequently on the theory and practice of medicine. As a lecturer he was terse and vivid, with a graceful, lucid style that made a lasting impression on the minds of his students. At one time he contributed many papers to the periodical literature of the time. He was a pioneer in the investigation of hydatid disease and wrote one of the first monographs on hydatids of the chest. In 1869 he was elected president of the Medical Society of Victoria. For a quarter of a century he acted as chief medical officer to the Australian Mutual Provident Insurance Society, and latterly, owing to failing health, he confined his attention almost entirely to this work. Possessed of a peculiar charm of manner, a genial optimistic temperament, and a commanding presence, the late Dr. Bird was a very impressive personality apart from his professional attainments.

June 6th.

Medical News.

UNIVERSITY OF LONDON.—At the M.B. examination held in May the following candidates were successful[1]:—

First Division.—Henry Harold Greenwood, Yorkshire College; Beatrice Mary Kidd, London (Royal Free Hospital) School of Medicine for Women; Ernst George Pringle, St. Bartholomew's Hospital; Philip Rees, B.Sc., Charing Cross Hospital; Herbert Douglas Smart, Guy's Hospital; and Sidney Maynard Smith, St. Mary's Hospital.

Second Division.—Frederick Hugh Alexander, University College; Joseph Hugh Arthur, London Hospital; Oliver Francis H. Atkey, King's College; John Gerald Atkinson, St. Bartholomew's Hospital; Sophie Grace Banham, B.Sc., Alice Marian Benham, Victoria Evelyn M. Bennett and Ruth Levy Bensusan, London (Royal Free Hospital) School of Medicine for Women; Athelstan Jasper Blaxland, University College; Agnes Maud Brown, London (Royal Free Hospital) School of Medicine for Women; Harry Hunter Carter and John Hunter Clatworthy, Guy's Hospital; Ernest Langsford Clay, University of Birmingham and Queen's and General Hospitals; Helen Mary Collen, London (Royal Free Hospital) School of Medicine for Women; John Moore Collyns, St. Bartholomew's Hospital; Philip Claude T. Davy, University College; John Thomas D'Ewart, Victoria University; Letitia Nora Ede, University of Durham; Raoul Félix, Middlesex Hospital; Joseph Anthony Ferrière, University College; John William Fox and Philip Anthony M. Green, London Hospital; Philip William Hamond, Guy's Hospital; George Montagu Harston, Charing Cross Hospital; Bernard Hart, University College; W. H. Harwood-Yarred, B.Sc., St. Thomas's Hospital; Geoffrey Seccombe Hett and Charles Dyson Holdsworth, University College; Margaret Hudson, B.A., London (Royal Free Hospital) School of Medicine for Women; Charles Edward Iredell, Guy's Hospital; John James, King's College; Frederick Arthur Johns, London Hospital; Smeeton Johnson, St. Mary's Hospital; Charles Herbert Farley Johnston, Charing Cross Hospital; Ernest Williams Jones, University Birmingham and Queen's Hospital; Frederic Wood Jones, B.Sc., London Hospital; Herbert Stanley Jones, Guy's Hospital; Rustamjee M. Kalapesi, St. Bartholomew's Hospital and Grant Medical College, Bombay; Henry Rateliff Kidner, B.Sc., St. Bartholomew's Hospital; Elizabeth Knight, Kate Knowles, and Jessie Augusta Lewin, London (Royal Free Hospital) School of Medicine for Women; Alfred Lewthwaite, University College; Maurice George Louisson, Guy's Hospital; Charles Ernest Wheatley Lyth, London Hospital and University College, Sheffield; Frederick Champ McCombie, King's College; Norman Macfadyen and Ernest Charles Mackay, St. Bartholomew's Hospital; Harold Charles Corry Mann, Guy's Hospital; James Alexander Milne, London Hospital; Bernard Moiser, Guy's Hospital; Edgar Coningsby Myott, Guy's Hospital and Victoria University; Percy Alfred Pealt and Charles Burnage Penny, Guy's Hospital; Francis Baldwin Pinniger, Charing Cross Hospital; Kate Anne Platt and Marian Theresa Pool, London (Royal Free Hospital) School of Medicine for Women; John Jekyll Rainforth, London Hospital; John Evans Richards, Charing Cross Hospital; Charles Michael Roberts, St. Thomas's Hospital; Gerald Warren Russell, Guy's Hospital; Arthur Campbell Stark, Westminster Hospital; Louisa Graham Thacker, London (Royal Free Hospital) School of Medicine for Women; Ernest Frank Travers, St. Bartholomew's Hospital; Laura Sobey Veale, London (Royal Free Hospital) School of Medicine for Women; Charles Richard Verling-Brown, St. Bartholomew's Hospital; Ada Miles Whitlock, London (Royal Free Hospital) School of Medicine for Women; Sydney Rice Williams, University College and General Hospital, Bristol; William Bamford Winston, B.Sc., St. Thomas's Hospital; Robert Stanton Woods, London Hospital; Frederick Robert Elliston Wright, St. Thomas's Hospital; and Samuel Zobel, University College.

[1] This list unfortunately escaped publication at the time that we received it.—Ed. L.

UNIVERSITY OF GLASGOW.—The following candidates have passed the fourth (final) professional examination :—

M.B., C.M.—Stewart Dunbar and Ernest Milton Watkins.

M.B., Ch.B.—Bethia Shanks Alexander, Archibald Craig Amy, Henry Græme Anderson, James Richard Sumner Anderson, Robert Daniels Bell, M.A., David Blackley, Forrest Brechin, Charles Brown, George Yuille Caldwell, Roberta Campbell, Thomas Murdoch Campbell, M.A., Peter Carrick, M.A., Robert Buchanan Carslaw, M.A., James Alexander Cowie, B.A., B.Sc., Thomas Thornton Macklin Dishington, Charles Milligan Drew, M.A., Hugh Harvey Fulton, John Graham, B.Sc., George Munn Gray, John Cochrane Henderson, James Rutherford Kerr, John Kerr, Ethel MacLeod Lochhead, Peter Lowe, M.A., B.Sc., Thomas Symington Macaulay, John Duncan M'Callum, M.A., Donald Carmichael M'Cormick, Neil M'Dougall, James Beaton M'Ewan, Tom Duncan M'Ewan, Duncan Macfadyen, John M'Farlane, Alexander Stuart Murray Macgregor, James M'Houl, Ronald Mackinnon, Andrew Brown M'Pherson, James Roy M'Vail, James Marshall Andrew Meek, Margaret Walker Millar, David Robertson Mitchell, John Muir, John Murdoch, Alexander Harper Napier, George Clement Nielson, Thomas Orr, Charlotte Reid Park, Howard Henderson Patrick, John Clegg Pickup, Andrew Maclean Pollock, James Porrer, William Murdoch Rae, William Rankin, M.A., Donald Ronald Reid, Berkeley Hope Robertson, M.A., B.Sc., Lawrence Drew Shaw, George Goldie Smith, B.Sc., Jessie Marie Stewart, William Craig Stewart, Murray Ross Taylor, William Templeton, James White Thomson, William Young Turner, M.A., Hugh Fleming Warwick, Robert M'Nair Wilson, Annie May Yates, and Hugh Young.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS.—The following candidates have passed the second professional examination :—

Honours.—D. Adams, V. Clifford, J. D'Alton, P. G. M. Elvery, J. B. Hanafin, P. M. Keane, C. Sheahan, T. Sheehy, and G. F. Shepherd.

Pass in all Subjects.—P. Blake, H. C. Carden, W. Carroll, N. E. Cussen, D. J. Hanafin, F. M. Hewson, E. Montgomery, J. B. McGlancy, and D. O'Sullivan.

Completed Examination.—R. J. Bonis, L. L. Davys, M. R. J. Hayes, J. Humphreys, W. St. L. Moorhead, F. J. Morris, and D. T. O'Flynn.

SOCIETY OF MEMBERS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—A meeting of Members of this College practising in Manchester and district was held at the Palatine Hotel on July 8th, Dr. J. Brassey Brierley being in the chair. The meeting was the first of a series which it is proposed to hold in various provincial centres in order to further the well-known claim of the Members to representation on the Council of the College. A deputation from the central council of the Society of Members, consisting of Dr. G. Danford Thomas, Mr. W. Gibson Bott, and Dr. W. G. Dickinson, was present. The president of the society, Mr. Joseph Smith, was at the last moment prevented from being present. Letters expressing regret at inability to attend and sympathy with the objects of the meeting were read from Dr. Thomas Morton, Mr. George Brown, Mr. H. W. Kiallmark, Dr. W. Percy Ashe, Dr. C. Couper Cripps, Mr. A. S. Morton, Mr. E. Dennis Vinrace, Dr. W. Winslow Hall, Dr. H. J. Macevoy, and many others. Dr. Brierley in a few introductory remarks explained the circumstances in which the meeting was held and called upon Dr. Danford Thomas to propose the first motion which was as follows :—

That in the opinion of this meeting the continued exclusion of the Members of the Royal College of Surgeons of England from all share in the government of their own College is unconstitutional and unjust and this meeting considers that every possible means should be taken to remove this anomaly.

This was seconded by Mr. Bott.—Dr. Dickinson then moved and Dr. Wolstenholme seconded :—

That this meeting desires to call the attention of the Council of the College to the published statements of its President, Mr. John Tweedy, in which he strongly advocates the claims of the Members to representation and this meeting urges the Council to take an early opportunity of giving effect to these claims.

It was decided to form a local branch of the Society of Members and Mr. R. B. Smith, of 252, Oxford-road, Manchester, agreed to act as honorary secretary. The meeting terminated with a vote of thanks to the chairman.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of this society was held on July 13th Mr. Christopher Heath, the President, being in the chair. Two new members were elected, the deaths of three members were reported, and it was stated that two gentlemen had ceased to be members of the society. A fresh application for a grant was read from a widow and a grant at the rate of £50 per annum was made. The deaths of two widows were announced; one, aged 81 years, had been in receipt of grants since January, 1877, and had received £1540 from the society; the husband had only been a member ten years, paying 20 guineas. The other, who had just entered her 101st year, had received £1245, having been on the funds of the society since January, 1882; the husband had paid 32 guineas in subscriptions. The death of an orphan was reported who had been on the Copeland Fund since 1866 and had received £452. A legacy of £1000 had been paid by the executors of Mrs. Du Pasquier. The expenses of the quarter amounted to £52 12*s.* 6*d.*

SCHOOL OF MEDICINE OF THE ROYAL COLLEGES, EDINBURGH.—At a meeting of the governing board of the School of Medicine of the Royal Colleges, Edinburgh, the secretary and registrar, Mr. R. A. Ramsay, reported that the number of students attending the school during the winter session 1903–04 was 1152 and that during the summer session 1904 the number was 1174.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced :—Dr. Otto Christian Lovén, emeritus professor of physiology in the Caroline Institute, Stockholm.—Dr. Fürstenheim, a well-known Berlin surgeon who devoted himself especially to diseases of the bladder. He had been for a long time in bad health.—Dr. Zacharias Oppenheimer, extraordinary professor of mental diseases in the University of Heidelberg and the senior member of the teaching staff of the Medical Faculty, at the age of 74 years.—Dr. Angelo Scarenzio, professor of dermatology in the University of Pavia.—Dr. Grohé, *privat-docent* of surgery in the University of Jena, very suddenly.

KING EDWARD VII.'S HOSPITAL FOR OFFICERS.—The following list of the honorary medical staff for King Edward VII.'s Hospital for Officers, appointed by His Royal Highness the Prince of Wales, president, and His Royal Highness the Duke of Connaught, vice-president of the hospital, has been approved by His Majesty, as patron. Consulting surgeons: Sir Thomas Smith, Bart., K.C.V.O., and Sir Frederick Treves, Bart., K.C.V.O., C.B. Medical officer: Mr. Charles A. Morris, C.V.O. Physicians and Surgeons: Mr. Herbert W. Allingham, Sir Thomas Barlow, Bart., K.C.V.O., Sir William Henry Bennett, K.C.V.O., Mr. Tom Bird, Mr. Anthony A. Bowlby, C.M.G., Sir William H. Broadbent, Bart., K.C.V.O., F.R.S., Mr. Arthur H. Cheatle, Mr. G. Lenthal Cheatle, C.B., Sir Anderson Critchett, Dr. Alexander Crombie, C.B., Dr. David Ferrier, F.R.S., Mr. P. Johnston Freyer, Sir Alfred Downing Fripp, C.V.O., C.B., Mr. Rickman J. Godlee, Dr. James F. Goodhart, Dr. Frederic William Hewitt, M.V.O., Sir Victor A. H. Horsley, F.R.S., Mr. George Henry Makins, C.B., Mr. J. P. L. Mummery, Dr. Frederick W. Pavy, F.R.S., Sir Richard Douglas Powell, Bart., K.C.V.O., Dr. William Aldren Turner, Mr. Henry Roe Walker, and Dr. William Hale White. Mr. Arthur Blomfield has been appointed architect. The appointments are for five years.

AUGUST BANK HOLIDAY ON THE CONTINENT.—For the convenience of holiday-makers on the Continent cheap tickets will be issued to Brussels for the Field of Waterloo, available for eight days, *viâ* Harwich and Antwerp. Passengers leaving London in the evening reach Brussels on the next morning. For visiting Holland, the Rhine, the Harz, and other parts of Germany special facilities are offered *viâ* the Great Eastern Railway Company's Royal British Mail Harwich-Hook of Holland route, corridor trains with vestibuled carriages, dining and breakfast cars being run on the Hook of Holland service between London and Harwich. Through carriages and restaurant cars are run to Berlin, Cologne, and Basle. The United Steamship Company of Copenhagen steamers will leave Harwich for Esbjerg (on the west coast of Denmark) on Thursday, July 28th, and Saturday, July 30th; returning from Esbjerg on Monday night, August 1st, and Tuesday evening, August 2nd. The General Steam Navigation Company's passenger steamers will leave Harwich for Hamburg on July 27th and 30th, returning on July 31st and August 3rd.

RUSSIAN MEDICAL OFFICERS TO TRAVEL.—The town sanitary committee of St. Petersburg in its report sets out that for the proper organisation of medical and sanitary supervision the town medical officers should be sent abroad periodically in order to become acquainted with the progress of the sanitary and medical departments of the large towns of Western Europe.

THE CENTRAL MIDWIVES BOARD.—The members of the Central Midwives Board, who met on July 14th at 6, Suffolk-street, London, S.W., Dr. F. H. Champneys being in the chair, resumed the consideration of the scheme of examinations and the duties of examiners. A proposition was put forward that the examiners in London should form a committee to be called the central committee of examiners and that the examiners in the provincial centres should form themselves into local committees. But it was made clear that this was not the most suitable means of securing the desired result and ultimately it was decided that the following regulation would meet the purpose:—

The examiners, both London and provincial, shall be invited to meet at the offices of the Central Midwives Board as often as may be necessary.

In the deliberations which followed the examiners were divided into two classes, the London examiners and the provincial examiners, for the purpose of assigning to them their duties. Dr. J. Ward Cousins and Dr. W. J. Sinclair raised an objection to a proposal that the London examiners were to set the examination questions without any provision being made for consultation on the subject with the provincial examiners. This was, of course, accepted as just criticism and the Board agreed that the first duty of London examiners should be "to consider examination questions suggested by provincial examiners." The next duty for the London examiners was then settled to be "to set all the papers of examination questions both for London and the provinces." It was then suggested that the task of setting the papers should be undertaken with the assistance of the chairman of the Central Midwives Board, but Mr. E. Parker Young said he objected to that because, as he said, under the present constitution of the Board they might have a matron of an institution or a midwife presiding over their sittings, and Dr. Sinclair added that the assistance suggested must be supplied by a medical man, because otherwise it would result in the Board finding it impossible to secure the services of provincial medical men in such circumstances. Dr. C. J. Cullingworth interposed with the following remark: "They might let the matter pass because practically the chairman will always be a medical man," but this did not satisfy Mr. Parker Young who emphasised the importance of great care being exercised by the Board in regard to matters of that kind. Ultimately it was agreed that two of the examiners should undertake in rotation the duty of setting the examination questions, with the assistance of one of the medical members of the Board to be appointed for the purpose. An interesting discussion then ensued as to the principle of whether the Central Midwives Board should revise if it so wished the decisions of the examiners in regard to the passing or the rejection of candidates at the examinations. Dr. Ward Cousins, Dr. Sinclair, and Mr. Parker Young all expressed themselves extremely clearly on the point and showed how necessary it was that the decision of the examiners should be final. These gentlemen also insisted upon the necessity of it being clearly understood that a candidate should be examined by two examiners, this latter point arising from some remarks of Dr. Cullingworth who spoke of the resolution passed at the last meeting of the Board that two examiners should be present at any examination, without making it clear that he considered it necessary that the two examiners should jointly examine the candidates. It was finally understood that the Board recognised the finality of the examiners' decisions by agreeing to the following regulation:—

That one of the duties of the examiners was "to report to the secretary of the Central Midwives Board the result of each examination."

The duties of the provincial examiners did not engage the attention of the Board very long and the following was agreed to:—

The examiners appointed by the Central Midwives Board to conduct the Board's examinations in provincial centres shall assist the secretary of the Central Midwives Board in making the necessary arrangements for the examination.

The Board then reconsidered its decision that the examinations should be held twice a year in London and the provinces and eventually decided that the examinations should take place four times a year or more often if necessary. At the end of the meeting Dr. Sinclair made some suggestive remarks as to the advisability of acceding to applications from workhouse infirmaries to be recognised as fit institutions for the training of midwives.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.—The annual distribution of prizes to the students of the Westminster Hospital Medical School took place on July 15th. Colonel Sir Frederic Cardew, K.C.M.G., late Governor of Sierra Leone, who presided, after presenting the prizes spoke to the students of some of the problems which they might help to solve in their future career. One of the great national problems of the present time was the physical health of the people and its bearing on the manning of the navy and the army. The teaching and experience of the medical profession must be one of the greatest determining factors in its solution and the help of the profession was required to settle the influences on physical health of town life, of the ignorance on the part of mothers of the proper management of children, of alcohol, &c. Sir Frederic Cardew advocated compulsory military service as, with other advantages, being likely to improve the national physique. The great improvement brought about by discipline in the case of the converts of the Salvation Army was referred to, although these converts were drawn from the lowest and most unhealthy classes. Dr. W. H. Allchin, senior physician to the hospital, proposed a vote of thanks to Sir Frederic Cardew and in doing so welcomed the growing tendency of the Government departments to seek for skilled medical advice from the great colleges and universities when grappling with problems of national importance. Prizes were presented to the following gentlemen: G. R. Ward, scholarship of 110 guineas and treasurer's prize; H. Austin Smith, scholarship of £60; A. Davies, scholarship of £60; R. Brown, scholarship of £40 and prizes for medicine and surgery; C. F. Dawson-Smith, scholarship of £30; H. Hingston, scholarship of £60; R. Asplen, scholarship of £40; G. F. Carr, prizes for practical chemistry, physics, and biology; E. G. Foote, prize for practical chemistry; L. White, midwifery prize; J. J. W. Evans, histology prize; C. Fletcher, pharmacology prize; R. S. Dollard, the Sturges prize for clinical medicine and the forensic medicine prize; and G. G. James, prizes for anatomy and physiology.

PROVISION FOR AGED RUSSIAN MEDICAL MEN.—The Russian Doctors' Society proposes to build in St. Petersburg a house with cheap living accommodation for aged medical men and the council of the society is endeavouring to get the town council to let it have ground for the purpose free of charge.

PRESENTATION TO A MEDICAL PRACTITIONER.—The staff of the Bristol health department on July 9th visited Dartmouth and after the luncheon at the Castle Hotel Chief Inspector J. Kirley, on behalf of the staff, presented Dr. D. S. Davies, the medical officer of health, with a silver salver, suitably inscribed, as a token of respect and esteem. Dr. Davies, in accepting the gift, said that the salver would be valued by him in remembrance of 18 years' cordial coöperation of the department.

WINSLEY SANATORIUM.—At the meeting of the board of management of the Winsley Sanatorium for Consumption held at the institution on July 9th Dr. Lionel A. Weatherly was elected chairman, Mr. Colston Wintle vice-chairman, Dr. Watson Williams and Mr. L. C. Hare treasurers, and Mr. L. A. Goss secretary.—The carnival which was recently held at the Zoological Gardens at Clifton in aid of the funds of the institution was very successful and more than £1500 have been handed to the treasurer.

MEDICAL RELIEF IN CIRENCESTER.—At the meeting of the Cirencester board of guardians held on July 11th it was resolved that the district medical officers, who at present receive a fixed salary, shall in the future, in addition to a fixed salary, receive a fixed fee per case so that some portion of the cost of the medical order could be given as a loan and recovered from the recipient eventually, should the guardians think it desirable.

ROYAL LONDON OPHTHALMIC HOSPITAL.—The numbers of patients under treatment at the Royal London Ophthalmic Hospital, City-road, E.C., during the month of June exceeded the numbers of any previous month in the 100 years of the existence of the hospital. The details are as follows: In-patients in the hospital on June 1st, 103; in-patients admitted during June, 230; total, 333. New out-patients treated during June, 3716; total attendances of out-patients in June, 11,401.

ELECTION OF CORONER FOR BISHOP'S STORTFORD.—Mr. Ethelbert Collins, L.R.C.P. Lond., M.R.C.S. Eng., has been appointed by the Hertfordshire county council coroner to the Bishop's Stortford district of East Hertfordshire. The office became vacant owing to the death of Mr. Henry Baker, solicitor, of Bishop's Stortford. There were six candidates for the post, including three medical men. Mr. Collins is in general practice and holds the appointments of medical officer of health to the Sawbridgeworth urban district council and police surgeon for the Sawbridgeworth district.

Parliamentary Intelligence.

HOUSE OF LORDS.

THURSDAY, JULY 14TH.

Public Health Bill.

A Public Health Bill was read a second time on the motion of the Marquis of LANSDOWNE. It was explained by his lordship that in 1897 an international sanitary convention was signed by several Powers at Venice. That convention contemplated that measures should be taken for the prevention of the conveyance of infection, should those countries be infected with plague, by the regulation of the departure of ships and in other ways. Some time afterwards there was a slight outbreak of plague in this country and the Government was asked whether it was prepared to carry out the terms of the convention and to issue regulations. The question was examined and it was found that there was no statutory power to issue such regulations. Lately another convention with the same object had been signed in Paris and it was found that the Government was still without the necessary statutory authority to issue regulations. This Bill proposed to confer the requisite powers on the Local Government Board.

HOUSE OF COMMONS.

TUESDAY, JULY 12TH.

By-laws on Tuberculosis.

Mr. FIELD asked the President of the Local Government Board whether he could state how many and what local authorities had adopted the model by-laws on tuberculosis issued by the Board; and whether in the event of the sanitary authority refusing to adopt the model by-laws there were any means of compelling it to do so.—Mr. LONG said: I presume that the hon. Member has in view the model regulations issued by my department for the guidance of local authorities in framing regulations under the Dairies, Cowsheds, and Milkshops Order of 1885. Since 1899, when the present model regulations were issued, 583 series have been made by councils of boroughs and urban and rural districts and they are for the most part based on the model. I am not empowered to compel local authorities to adopt the model regulations if they do not think fit to do so.

Meat affected with Tuberculosis.

Mr. FIELD asked the President of the Local Government Board whether he could state if the medical officers of health who were charged with the duty of judging meat alleged to be affected with tuberculosis had any special qualification for this position, or whether they had passed any examination in public health, and whether he would consider the necessity of issuing by-laws for their guidance with a view of protecting the private property of the traders in native meat and preventing the detrimental effect of unnecessary confiscation upon the producers of home meat.—Mr. LONG answered: I am advised that the training which every registered medical practitioner must have received as a student is sufficient to render him competent to detect tuberculosis in a carcass. As every medical officer of health must be a registered medical practitioner it is not necessary for the purpose mentioned in the question that he should possess any special qualification. Circulars were issued by my department in March, 1899, and September, 1901, drawing attention to the principles which should be observed in the inspection of tuberculous carcasses and I do not think that I need take any further action in the matter at the present time.

WEDNESDAY, JULY 13TH.

Salary of Irish Medical Officer.

Dr. E. C. THOMPSON asked the Chief Secretary to the Lord Lieutenant of Ireland whether he would explain why the Local Government Board for Ireland had refused to sanction the increase of salary granted to Mr. T. T. Collins of Ballinasloe, seeing that this officer had had 13 years' service without a complaint, that his salary now is £15 a year less than it was when he was first appointed, and that the Local Government Board had quite recently sanctioned a salary of £150 to a medical officer of a much smaller dispensary district in the same neighbourhood.—Mr. WYNDHAM replied: Mr. Collins was appointed dispensary medical officer in 1891 at a salary of £112 a year. His present salary is £120 a year, together with a small annual payment as compensation for reduction of income arising out of the operation of the Local Government Act of 1898. The district referred to at the end of the question is wholly rural and affords small scope for private practice. Mr. Collins resides in the town of Ballinasloe and has good opportunities for private practice.

Teaching of Elementary Hygiene.

Dr. THOMPSON asked the Secretary to the Board of Education whether his attention had been drawn to the recommendations of the deputation which waited, on Monday last, on the Marquis of Londonderry at the Education Office, on the importance of teaching elementary hygiene in the public schools of the country; and whether, pending a comprehensive scheme of instruction in matters relating to public health, he would direct that the ten sanitary laws detailed by the President of the British Medical Association shall be tabulated and hung up in a prominent place in each school in Great Britain and Ireland.—Sir WILLIAM ANSON said: The Board of Education is considering by what methods the satisfactory teaching of elementary hygiene may be best secured in the schools of the country. Amongst other things it is essential that the instruction should be given by properly qualified teachers. I am doubtful as to the educational value of the method proposed by the honourable Member. I must remind the honourable Member that the powers of the Board only extend to England and Wales.

FRIDAY, JULY 15TH.

Vivisection.

Dr. J. G. SHIPMAN asked the Home Secretary whether separate experiments under Certificate B. or B. + E., E., or C., other than consecutive operations necessary for the due completion of one experiment had been performed on the same animal during the last year for which statistics were available, and if so how many.—Mr. AKERS-DOUGLAS said: I have not given sanction for the performance of more than one operation on the same animal under the certificates mentioned other than consecutive operations necessary for the due completion of one experiment, and with the exception of the facts connected with the case of Baylis *v.* Coleridge I have no information on the subject.—Dr. SHIPMAN also asked the Home Secretary how many experiments under the Act 39 and 40 Vict., c. 77, had been performed at each place on the register during 1903; and whether he could ascertain how many separate experiments were performed upon the same animal during the same period.—Mr. AKERS-DOUGLAS said: I have no materials from which I can give the information asked for.—Dr. SHIPMAN further asked the Home Secretary whether he could state in how many cases the licensed vivisector himself had been the only authority present at the operation whose duty it was to see that anæsthetics of sufficient power to prevent the animal feeling pain were administered.—Mr. AKERS-DOUGLAS replied: I have no information enabling me to answer this question.

TUESDAY, JULY 19TH.

Qualifications of Assistant Medical Officers in Lunatic Asylums.

Mr. HAYDEN asked the Chief Secretary to the Lord Lieutenant of Ireland whether he would explain why one of the Privy Council rules for the regulation of lunatic asylums in Ireland prescribed as one of the qualifications for the office of assistant resident medical officer that he should be unmarried, in view of the fact that no such condition was prescribed in the case of the resident medical superintendent; and whether, if such a condition was not prescribed by any asylum committee of management which might make new rules, the Lord Lieutenant would insist upon its inclusion amongst such rules.—Mr. WYNDHAM replied: The rule prohibiting a married man from being appointed to the position of assistant medical officer of a district lunatic asylum is of universal application throughout the United Kingdom. It is embodied in an Order of the Lord Lieutenant in Council dated April 28th, 1898. The object of the rule is to secure for the position the services of men who are more likely to devote their whole attention to learning the special duties of their office. A resident medical superintendent must be a man of experience and must have served as assistant medical officer for at least five years. The rule has been adopted by every asylum committee in Ireland which has drawn up regulations, save the Ballinasloe Asylum Committee. A departure from the rule will not be sanctioned in the case of that asylum.

THE SELECT COMMITTEE ON THE REGISTRATION OF NURSES.

The Select Committee of the House of Commons which is considering the expediency of State registration of nurses heard further evidence on Thursday, July 14th. Mr. H. J. TENNANT presided.

Mr. CHARLES BURT, chairman of the Central Hospital Council for London and the Royal Free Hospital, stated that the Central Council was constituted by representatives of the 12 large general hospitals in London and eight other hospitals which had been added lately. The Council on Jan. 26th of this year resolved that it was opposed to any State registration of nurses. A very large number of hospital managers and chairmen, medical men, lecturers, matrons, and others had signed a statement declaring any system of State registration to be detrimental to the public and harmful to the nurses themselves.

Mr. SYDNEY HOLLAND, chairman of the London, Poplar, and Tilbury Hospitals, member of Queen Alexandra's Imperial Military Nursing Service Board and of the Council of Queen Victoria's Jubilee Institute for Nurses, said that he had given up the best part of his life to understand and to improve nursing. He had given two or three days a week to the subject during the last 13 years. It was unreasonable to suppose that people who had laboured for years in connexion with nursing would oppose the registration of nurses if they thought that it would improve nurses in any way. He mentioned the more important names which were appended to the statement to which Mr. Burt had referred. The matrons who had signed included those of every London hospital except St. Bartholomew's, Charing Cross, and Guy's. He warned the committee against accepting the verdict of the Matrons' Council as bearing very great weight. It was a self-elected body which in no way represented the matrons of England, Scotland, or Ireland. Registration was no safeguard to the medical practitioner as it did not secure that he would get a good nurse. No medical man worth his salt would take a nurse for a patient simply because she was on a register. He engaged a particular nurse because he knew her and if he engaged her through a hospital or an association he trusted that hospital or association to supply him with a good nurse. Every hospital and association which supplied a nurse was legally responsible for the acts of that nurse and therefore they ran the risk of great legal liability if they supplied a bad nurse. There was also the commercial question which would prompt every hospital and association to supply good nurses and get further employment for them. If registration was instituted it would lead nurses to think that they belonged to the profession. They would have a tendency to think themselves rather the colleagues of medical men than nurses who had to carry out the orders of the practitioner. They would be a sort of pseudo-scientific person. This was an argument very much felt by medical men. Registration would be no safeguard to the public. Inquiry was the only safeguard against the public getting bad nurses. They would not dream of engaging a house-maid, cook, or lady's-maid simply because she was on a register. They would inquire into her character and such inquiry was all the more important in the

case of one who had to tend the sick. People said that they must have registration and inquiry but one of the insidious dangers of registration was that it would tend to stop inquiry because people would be led to think that no inquiry was necessary. They would be lulled into a false sense of security. If proper inquiry were made bad nurses would fail to get employment. It was the engaging of nurses without proper inquiry that had led to so many scandals. No registration would secure practical or technical capability. A nurse might be registered and might remain a nurse for ten years, but in that period nursing methods would change tremendously. There had been a complete change in surgical methods during the past ten years. They had had the antiseptic treatment and then the aseptic. The method of sterilising had altered. Poulticing had been again resorted to and dry cupping, after being abolished, was coming in again. The same remarks applied to the treatment of patients with leeches. Matrons would tell them that nurses did lose their skill and knowledge, especially in regard to modern methods, when they had been nursing for a long time in private work. Yet under the proposals that had been made the State would guarantee as good nurses all those women who, years before, had passed an examination. Apart from not being able to register a very important part of a nurse's character—namely, whether she was out-of-date or a good woman possessing the characteristics of a good nurse, they would not be able by registration to give a guarantee of the technical and practical skill of the nurse. Nurses did deteriorate very much in private nursing. They had small failings and big failings. Registration would not be a guide as to the suitability of a nurse for certain patients. The importance of that particular suitability could not be exaggerated. There were 115 or 120 nurses on the private staff at the London Hospital and they were sent all over the country and abroad, but great care was taken to send out persons who were suited to the patients. Registration was only to be obtainable as the result of examination. The woman who did best in examinations was not necessarily the best nurse. The value of a nurse depended on her personal characteristics combined with her practical experience. It was, therefore, futile to publish to the world that a woman was a good nurse guaranteed by the State when she had only passed a certain examination. Some people said that there would also be a certificate from the matron to the effect that a nurse was of good character. But no matron would give any character to a central body except in very general terms. If for registration there was to be a very high standard a lot of very good women would be excluded. If the standard were very low it would be useless as a safeguard and he did not think that anyone seriously suggested that there should be a graduated standard. They heard a great deal about a uniform standard of training but that was a very delusive expression. Three years or two years in one hospital might give a very good training but 20 years or ten years in some hospitals would give no training at all. It was a mistake to fix on a term of years as the necessary qualification. It was also absurd to keep a woman out of responsible work when she was fit to do it simply because she had not been in a hospital for a certain time. Registration would tend to less progress in hospitals because all that the nurses would care about would be to get through the examination. It would not stop other women nursing. It was an undoubted fact that many women who were not fit to be registered were doing magnificent work throughout the country. It would be rather a slur on those women to tell them that as they were not registered nurses they were no good. People tried to separate experience from training. No one would say that the nurses at the London Hospital after they had been training for two years were inefficient. A hospital ought to keep a list of every nurse who had been in it with a record of all that was known about her. Nurses ought to be encouraged to keep up connexion with their schools and all those who were proud of their schools and their records would do so. Speaking for the London Hospital he did not think that there was a single nurse they had had whom they could not refer to and tell all about in regard to her work. With all respect he suggested that one of the recommendations of the committee ought to be in this direction. It would be impossible to remove a nurse from the register unless she was guilty of some gross act. Nobody would otherwise dare to take the initiative to get her removed. They might take, for instance, a mad nurse. He knew one, but who was going to say that that woman was "dotty"? The complaints which they received about nurses at the London Hospital were never in regard to technical training but rather to the effect that a nurse was selfish, or gave trouble, or could not get on with the patient, and so on. These were matters which could not be covered by registration. They could not make nurses register compulsorily and they had already the opportunity of registering with the Royal British Nurses' Association. As to the case of a midwife, she went in for a special job and she could go outside and drink herself stupid if she did her own job accurately and well. He did not say that a drunken midwife was better than a non-drunken one but she got her registration for doing one specific act. The same thing might be said of the medical man. The physician's business was to speak as one entirely concerned with technical knowledge and therefore the analogy between nurses and medical practitioners did not apply. Another difficulty in the way of registration was that there were not enough trained nurses to fill all the posts, the demand for them having increased in recent years. It would not be possible for women in sufficient numbers to meet the requirements of registration. As to payment of a registration fee of five guineas as had been proposed, nurses could not afford that sum and in many cases it would be prohibitory. Registration if adopted must be free.

Sir JOHN BATTY TUKE asked the witness in regard to his remarks on the liability of hospitals whether if a nurse was sent out to attend a case of typhoid fever and she was negligent and the patient died an action would lie.

Mr. HOLLAND replied in the affirmative. He had known a case to occur.

The CHAIRMAN asked whether the opposition of many medical men was due to the fact that nurses might consider themselves medical practitioners.

Mr. HOLLAND said that they could always attribute motives to people but he did not know that this particular motive could be applied. It would be a very serious danger if nurses were to consider themselves amateur medical practitioners. Nurses should not think themselves more than the faithful carriers out of the physician's orders. People were beginning to talk about nursing being a profession and about graduates of nursing and so on. He was satisfied with the position which nurses now occupied, but he did not say that he did not wish any improvement. By means of State registration a continuing guarantee would be given.

The CHAIRMAN alluded to Mr. Holland's evidence regarding a mad nurse who was going about.

Mr. HOLLAND remarked that she was not a lunatic but she was "dotty."

The CHAIRMAN: "Dotty" is a very different word from "mad."

Mr. HOLLAND: Yes, but we all know what it means. Under registration it would be more dangerous to have such a woman going about than at present, because she would be guaranteed by the State as one fit for employment. He regarded the fixing of three years for training as wrong. It meant nothing. The nurses who were sent to nurse King Edward and also Queen Victoria had not had three years' training, but they had great experience. He could also mention 20 matrons who had not had three years' training.

At this point the Committee adjourned.

The Committee met again on Tuesday, July 19th, with Mr. Tennant in the chair, when Dr. NORMAN MOORE gave evidence. He stated that he was a physician at St. Bartholomew's Hospital and was a member of the General Medical Council. He thought the general education of nurses had enormously improved during the last 30 years and the standing of the majority of people who wished to become nurses had improved, so far as he could judge at St. Bartholomew's Hospital. Fewer uneducated women applied and it was now impossible for an entirely uneducated woman to receive training. In 1870 there were many nurses who could only just read and write. He contended that it would be impossible and undesirable to try to establish absolute uniformity in technical training. It did not exist in medical education. The methods of different parts of the United Kingdom were different and one could not say that there was only one way of training a nurse any more than that there was only one way of training a medical man. As to literary education, he thought it very important that the door to nursing should be as widely opened as possible. The qualifications which made a woman a first-rate nurse existed in all classes of society and all degrees of education. Domestic servants often became excellent nurses, while others were quite unfit. The same remark applied to people of higher education. He therefore should not make the literary requirements too great. As a rule medical attendants felt the responsibility and took very great pains to get the right kind of nurse for a particular kind of case. It was generally possible to do that but in the case of an epidemic there might be difficulty.

The CHAIRMAN: Would it be a safeguard to the medical man to know that a nurse he was getting, though possibly unknown to himself, was a woman of wider experience than those now going about as fully-trained though not so?

Dr. MOORE: I should judge that a nurse whether competent or not may have received the highest degree of training. In a day I might perceive whether a nurse was likely to be the most useful person for a particular patient. In St. Bartholomew's Hospital, he continued, the nurses were not allowed to go out to nurse until they were certificated. There was a private nursing home to which they went. They all received three years' experience.

The CHAIRMAN: We have been informed that some of the best hospitals send out nurses who, as they believe, are suitable for certain cases. Would you consider that there was any danger in a woman going out after nine months' or a year's training to nurse a suitable case and then being handed over to another case for which she was not suitable?

Dr. MOORE: A great deal would depend on the way in which she was instructed, the kind of opportunity she had, and so forth. I could not lay it down as a rule that after a year's training a nurse would not be fit to nurse, for example, a case of enteric fever.

The CHAIRMAN: Would you like to see a rule that nurses should not be considered fit to go out indiscriminately to nurse the public who had not had a minimum period of years of training?

Dr. MOORE: I do not think that that would be a wise regulation in the present state of things. It would be requiring more than the remuneration that they could get would justify. There must be a very large number of nurses and he did not think that the Committee would be justified at present in saying that no one should nurse who had not been trained for three years. The responsibility rested with the medical attendant and it was not necessary in the interests of the public to have any regulation of that kind.

The CHAIRMAN: Would you not think that the protection of the medical man was as important as the protection of the public and that he would wish to draw from a body of people who had this definite amount of training?

Dr. MOORE: It is his duty to do all he can for the patient and the person whose interest is concerned is the patient. Well trained nurses are thoroughly trusted and they are very well known. As far as my own experience as a physician goes I think the position of the best nurses at the present time is a very good one. Continuing, he said he had read in the evidence before the Committee that complaints were made that the best nurses were put into competition with the inferior persons who had had inadequate training. He knew that that was the opinion of some highly-trained persons but he could not mention an instance from his own experience. He considered that a central body would be unworkable in respect of ruling the people on the register. He sat on the General Medical Council which acted as a sort of judicial body. It had no difficulty in removing people who had been convicted of a felony but it was a very bad body for investigating evidence. He always felt the gravest anxiety when sitting on the Council in that capacity. A central body could do nothing but remove nurses convicted of crime. In the case of a nurse of unsound mind or, as Mr. Holland said, a woman who was not exactly mad but "dotty" it would not be possible for such a body as was contemplated to prevent such a woman going among the public. It would not happen if the public consulted their medical attendants because they would tell them not to have that particular nurse. So far as he knew the General Medical Council had never removed a medical man from the Register because he was believed to be unskilful or unsound. He supposed that if it were proved that he was insane the Council might be able to remove him, but he was not sure. No case had occurred during the four years he had been on the Council. It would be practically impossible to remove from the register a nurse who was unsound but not sufficiently insane to be shut up, if they had a council such as was proposed. At present a medical man felt the responsibility and if he knew such a woman it would be his duty to tell

his friends and see that she was not employed in the district. Sufficient stress had not been laid on the *esprit de corps* which existed among nurses who had been trained in a good hospital. Anything that would stereotype the training and experience of nurses would tend to check rather than encourage the progress in nursing education which had gone on during the last few years.

Replying to Viscount MORPETH, Dr. MOORE said he thought examination by a central authority would tend to be less efficient. Examinations under a central body would cost a great deal and a central examination with a schedule of subjects must tend to hasty preparation. In the hospital examinations questions were asked about things that could not be learned out of a book.

Replying to further questions, he said that many women would find a registration fee of £5 a prohibitory sum. Asked whether a public certificate would tend to shift the responsibility for the competence of the nurse from the medical man, Dr. Moore said a medical man would be extremely wrong in any circumstances to give up that responsibility.

Answering Mr. C. HOBHOUSE, Dr. MOORE said that in six months a woman might learn things which would be very useful in some kinds of nursing such as cottage nursing but which would not fit her to nurse a case of complicated abdominal surgery. The goodness of the very best nurses he had ever known had depended very largely on moral qualities which they must have had to begin with but which were cultivated by training. While a year might be sufficient to train one nurse, it might require two or three to train another. In a quarter of an hour's conversation with a nurse he would feel pretty sure whether she would prove competent. If the regulations which at present controlled the entrance to nursing were made more severe he thought there would be a diminution in the number of nurses.

Replying to the Chairman, he said no medical man would allow patients to go into a nursing home or to remain there if they were not being properly nursed. He had never personally come across cases of scandal. The best homes he had known had mainly depended on the surgeons, and if they became inefficient they ceased to exist almost immediately. He wished to add that he thought the enormous improvement which had taken place in our time in nursing had had a most beneficial effect on the treatment of disease, and when he said that such a register as was proposed was not desirable he did so only because he thought it might tend to impair the progress that had already taken place. If a minimum standard were fixed in the case of nurses the tendency would be to remain satisfied with that minimum.

Mr. SYDNEY HOLLAND, chairman of the London Hospital, who was recalled, amplified the evidence which he gave the previous week. He admitted that there were incompetent nurses but reiterated his objections to State registration.

The committee adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BOULBY, E. H., M.D., M.R.C.S., L.R.C.P., has been appointed Clinical Assistant to the Chelsea Hospital for Women, S.W.

COLLINS, ETHELBERT, L.R.C.P. Lond., M.R.C.S., has been appointed Coroner for the Bishop's Stortford District of East Hertfordshire.

DEY, ROBERT, M.B. Syd., has been appointed Government Medical Officer and Vaccinator at Bourke, N.S.W., Australia.

MUMMERY, PERCY LOCKHART, B.C. Cantab., F.R.C.S. Eng., has been appointed Assistant Surgeon to the North-Eastern Hospital for Children, Hackney-road.

NEAL, F. C., M.R.C.S., L.R.C.P., has been appointed Clinical Assistant to the Chelsea Hospital for Women, S.W.

OAKLEY, ADAM R. H., L.R.C.P., L.R.C.S. Edin., has been appointed Third Honorary Anæsthetist to the London Throat Hospital, Great Portland-street.

READ, W. H., M.B., Ch.M. Syd., D.P.H. Cantab., has been appointed Honorary Assistant Skiagraphist to the Sydney Hospital, Australia.

ROSS, CHISHOLM, M.B., Ch.M. Edin., M.D. Syd., has been appointed pro tem. a member of the Police Medical Board, New South Wales, Australia.

SHAW, FREDERICK CHARLES, M.B., M.Ch. Syd., has been appointed Government Medical Officer and Vaccinator at Wyalong, New South Wales, Australia.

SUTTON, C. S., M.B., Ch.B. Melb., has been appointed an additional Anæsthetist at the Women's Hospital, Melbourne, Victoria, Australia.

TURNER, F. D., M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Medical Officer to the Post Office and Medical Examiner to the Board of Education at Huddersfield.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

AYR DISTRICT ASYLUM.—Junior Medical Officer, unmarried. Salary £120, with board, apartments, attendance, and washing.

BETHLEM HOSPITAL.—Two Resident House Physicians (unmarried). Honorarium at rate of £25 each per quarter, with board and residence.

BRECON AND RADNOR ASYLUM, Talgarth, R.S.O.—Assistant Medical Officer, unmarried. Salary £140 per annum, with apartments, board, attendance, and laundry.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-Resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150, with apartments, attendance, &c.

CHELTENHAM GENERAL HOSPITAL.—Junior House Surgeon, unmarried. Salary £50 per annum, with board, lodging, and washing.

DEVONPORT ROYAL ALBERT HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—House Surgeon. Salary £50 per annum, with board and washing.

GORDON HOSPITAL FOR FISTULA, &c., Vauxhall Bridge-road, S.W.—House Surgeon. Honorarium £15 15s. for six months or £40 for 12 months, with board and residence.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway.—Pathologist. Salary 50 guineas per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Physician, also House Surgeon, both for six months, and unmarried. Salary in each case £20, with board and residence.

LEIGHTON BUZZARD UNION.—Medical Officer. Salary £280 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

ROTHERHAM HOSPITAL AND DISPENSARY.—Senior House Surgeon. Salary £110 per annum, with rooms, commons, and washing.

ST. MARY'S HOSPITAL FOR SICK CHILDREN, Plaistow, E.—Assistant Resident Medical Officer for six months. Salary at rate of £30 per annum, with board, residence, and laundry.

SHILLELAGH UNION.—Medical Officer. Salary £135 per annum and fees.

SOUTH SHIELDS, COUNTY BOROUGH OF.—Medical Officer of Health. Salary £300 per annum, rising to £500.

SOUTH UIST PARISH.—Medical Officer and Public Vaccinator. Salary £77 10s.

SOUTHWARK UNION INFIRMARY, East Dulwich-grove, S.E.—Second Assistant Male Medical Officer. Salary £100 per annum, with board, lodging, and washing.

STIRLING DISTRICT ASYLUM, Larbert, N.B.—Assistant Medical Officer. Salary £150, with board, &c.

STOCKPORT INFIRMARY.—House Surgeon. Salary £100 per annum, with board, washing, and residence.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Junior House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, &c.

WHITEHAVEN AND WEST CUMBERLAND INFIRMARY.—House Surgeon. Salary £150 per annum, with rooms and attendance.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, lodging, and washing.

WORCESTER GENERAL INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

BUZZARD.—On July 15th, at Grosvenor-street, W., the wife of E. Farquhar Buzzard, M.D., of a daughter.

CROCKER.—On July 13th, at Gort House, Petersham, Surrey, the wife of J. Hedley Crocker, M.D., of a daughter.

DIXON.—On July 12th, at Lynwood, Haven-green, Ealing, the wife of R. Halstead Dixon, M.B. Lond., of twin daughters.

FARR.—On the 16th of July, at 67, Warwick-gardens, Kensington, W., the wife of James Farr, M.R.C.S., of a daughter.

FORSYTH.—On July 16th, at Woodside, Chacewater, Cornwall, the wife of Alec Forsyth, M.B., C.M., of a daughter.

MARRIAGES.

BENTLEY—HERRING.—On the 16th inst., at St. Michael's Church, Basingstoke, by the Rev. Dr. Cooper Smith, vicar of the parish, Joseph Reginald Bentley, M.B., B.C. Cantab., &c., of Limpsfield, Surrey, only son of Joseph Bentley, of Beech House, Barrow-on-Humber, to May M. Herring, youngest daughter of Henry Herring, of Tewkesbury.

LEGGATT—ANDERSON.—On July 14th, at St. Mary Abbots, Kensington, by the Rev. Basil Spurgin, vicar of St. John's, Sidcup, and the Rev. Dr. Rosedale, vicar of St. Peter's, Bayswater, Allen Worth Leggatt, son of the late H. Bethune Leggatt, to Lucy Hosack, second daughter of Izett Anderson, M.D. Edin., of 22, Arundel-gardens, W., and formerly of Kingston, Jamaica.

WILLIAMS—MONKS.—On July 13th, at Whitefield Tabernacle, Kingswood, by the Rev. W. E. Rice, of Gloucester (cousin of the bridegroom), assisted by the Rev. J. Willcox, Sydney Rice Williams, M.B. Lond., of Buckfastleigh, Devon, only son of James Williams, Fishponds, Bristol, to Isabel, only daughter of the late John Monks, The Hollies, Kingswood, near Bristol.

DEATHS.

FREELAND.—On July 14th, 1904, at the residence of his son, Delamere, Snodland, Kent, John Baker Freeland, M.R.C.S. Eng., of Parham, Antigua, West Indies.

MARSHALL.—On July 13th, at Church House, Mitcham, Edward Marshall, M.R.C.S.E., L.S.A., aged 78.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A LOCAL WORTHY.

UNDER the heading "Our Local Worthies" and with the sub-title "Brief Sketch of a Remarkable Young Doctor" a Welsh newspaper has printed an extraordinary rigmarole, excerpts from which follow (we omit the names):—

"We publish this week a photograph of Dr. ——. For the purpose of studying for the medical profession he entered the University College, Cardiff, in October, 1897. His two years here showed that the young student would make a mark in his profession, as he passed a part of his preliminary scientific examination of the London University, and completed his first and second examination of the Royal College of Surgeons and Physicians. The fact that he was at Cardiff under the tutorship of such men as Professor A. Craft, dean and professor in physiology, and Professor Dickson, lecturer in anatomy, who succeeded Professor Cunningham to the chair of anatomy in Dublin, shows that the student here had the groundwork set for a most promising career. From Cardiff he went to the well-known Middlesex Hospital in London to complete his hospital training. His stay in town was marked by more successes as he became a prizeman in medicine, surgery, and midwifery, and in July of 1902 he became qualified to practise as a public doctor. Thus in very few years Dr. —— had successfully passed all his final examinations in connexion with the Royal College of Surgeons and Physicians, London."

In other words, the remarkable young doctor became doubly qualified in the statutory time. Then follow some retrospective remarks on the father of the victim, and an allusion to his having taken an M.D. degree somewhere (place not stated) elicits this:—

"This distinction has assured for him a further successful career, and the information that he has resolved to return to his first public sphere to co-operate with his cousin, Dr. ——, is very welcome. This is a boon to the community at A——, B——, C——, and D——, as the importance of such a developing district is becoming more and more felt, and it is of the greatest importance that in the midst of this development experienced and reliable medical gentlemen should dwell. They have surgeries at A—— and C——, and it is stated that another is shortly to be opened at B——, a moral which plainly shows the continued increased demand for the services of Drs. —— and ——. The public naturally have confidence in such capable experts."

This flaring puff of a young man who has performed no more notable exploit than that of returning to his own people after obtaining qualifications to practise medicine has naturally given rise to unfavourable comment. We acquit the victim, as we have already termed him, of purposeful advertisement but he should take steps to restrain his editorial friend from making him publicly ridiculous in the future.

THROMBOSIS AFTER APPENDICITIS.

To the Editors of THE LANCET.

SIRS,—A patient of mine was operated upon for a large appendicular abscess some six months ago. Over one and a half pints of pus were let out of the abdomen. He made a good recovery, though his confinement to bed was a prolonged one owing to the wound having to heal up from the bottom. He has made a perfect recovery except for the fact that there is a considerable amount of swelling of one of his legs, no doubt due to thrombosis of a vein.

I was unaware that this was a usual complication of such an operation, and I should be glad of information from any of your readers who have seen a like case as to prognosis and treatment of the condition. I may mention the fact that he is able to get about fairly well and takes a moderate amount of exercise.

I am, Sirs, yours faithfully,

July 19th, 1904. VIATOR.

HYPNOTIC TREATMENT OF MORPHINISM.

To the Editors of THE LANCET.

SIRS,—I should feel much obliged if any of your readers could give me the data—under their personal experience—of patients suffering from the morphia habit being cured by hypnotic auto-suggestion.

I am, Sirs, yours faithfully,

July 19th, 1904. M. S. C.

*** We believe that experience tends to show that the benefit obtained from suggestion by patients suffering from the morphia habit is only of short duration. Cases have been reported of insomnia and morphinomania being "cured" under the influence of dionine and veronal.—ED. L.

THE VENTILATION OF RAILWAY CARRIAGES.

OUR attention has been drawn to a system of ventilation of railway carriages and other vehicles which depends upon the draught of air set up by the motion of the carriage, by means of which the vitiated air is extracted and replaced with fresh air presumably without inconvenience to the occupants. The carriage is provided with a double roof or ceiling, one being disposed over the other, a suitable space intervening. Each compartment has an outlet at the top through the lower ceiling, terminating in the longitudinal air passage, and each outlet is preferably in the form of a bent tube or hood which has its exit facing the rear end of the carriage. The tubes are so made as easily to be turned according to the direction in which the carriage is travelling. The draught of air through the longitudinal air passages induces an exhaust upon the air of the compartment. It is not clear, however, whether special inlets are provided. The system has certainly the merit of simplicity and any suggestion aimed at the improvement of the air of railway carriages claims attention, as impure air is undoubtedly a contributory factor to the discomforts of railway travelling. The invention belongs to Messrs. T. H. Rushton and J. C. Store, of 308, Cleeth-road, Grimsby.

"LOOK ON THIS PICTURE AND ON THIS."

To the Editors of THE LANCET.

SIRS,—I thought that Birmingham was the only town that could boast of such hospital abuse as you refer to under the above heading in your issue of July 9th, p. 122. Here we have the Queen's Hospital, 1*s.* advice and medicine for six weeks; the Children's Free Hospital, 6*d.* advice and medicine for two weeks; the Ear and Throat Hospital, 3*s.* 6*d.* for six weeks' treatment; the Women's Hospital, 2*s.* 6*d.* for a month's treatment; and the Skin and Lock Hospital, 1*s.* for two weeks' treatment. At the Queen's Hospital students also attend midwifery for 1*s.* Then we have a multiplicity of dispensaries (municipal) the medical officers of which attend the workers and not the poor, as the workers have to subscribe at their various work-places and hence get the tickets. All these institutions here are grossly abused. Is there no remedy? Several men on the outpatient staff are paid honorariums. Some of these institutions see 300 patients a day and they are often there till 5 o'clock at night. Could not this be brought before the General Medical Council?

I am, Sirs, yours faithfully,

Birmingham, July 13th, 1904. GRIFFITH WILKES.

THE EYRE TESTIMONIAL FUND.

To the Editors of THE LANCET.

SIRS,—I am glad to say that I have now received a sufficient amount to defray Dr. Eyre's taxed costs. I should therefore be glad if you would be so good as to publish the following additional list of subscriptions and to announce that the subscription list is closed.

I am, Sirs, yours faithfully,

Mansfield-street, W., July 20th, 1904. J. H. BRYANT.

	£	s.	d.		£	s.	d.
Dr. F. Taylor	3	3	0	Dr. T. Brice Poole	1	1	0
Dr. P. Horrocks	2	2	0	Mr. H. G. Blackmore ...	1	1	0
Dr. J. C. Thresh	2	2	0	Mr. P. F. Henry	1	1	0
Mr. Archibald Sharp ...	2	2	0	Dr. O. Beven	1	1	0
Dr. J. F. J. Sykes	2	2	0	Dr. E. B. Randall	1	1	0
Dr. E. F. Buzzard	1	1	0	Dr. G. Murray	1	1	0
Dr. B. A. Richmond ...	1	1	0	Mr. W. Washbourn ...	1	1	0

THE PESTS OF THE ROSE.

THOSE of our readers who are interested in rose cultivation and whose entomological knowledge is not very extensive will welcome the issue of *Amateur Gardening* of July 16th which contains an article on the insect enemies of the rose with illustrations in colours. Suggestions for the eradication of the rose pests are also given. The price of the issue is 1*d.* and the publishers are Messrs. W. H. Collingridge, 148, Aldersgate-street, London, E.C.

F. O. E.—We think it advisable that the medical officer of health should also be medical officer to the isolation hospital and should certainly regard his duties at this institution as talling within those of his original official post. But we consider that the employment of a qualified assistant, whose salary is paid by both partners, upon work that is the private perquisite of one of them is against the spirit of the agreement.

Dr. C. Ormerod.—The passage is as follows: "I have had a number of such powders made up ..... containing three grains of eucaine *β* and a certain quantity of chloride of sodium. One of these is boiled for a few minutes in seven ounces of distilled water and gives us a sterile solution of eucaine *β* one part, chloride of sodium eight parts, and water 1000 parts by weight."

A Grandfather.—The question as to whether a newly confined woman should be allowed to see her relatives must be decided by the medical man in charge of the case. Even though "mother and child are doing well" there may be reasons why visitors are not desirable.

"Enid Wills."—We do not publish communications from correspondents who do not supply us with their real names and addresses. The conditions described are by no means so uncommon as our correspondent appears to imagine.

Miss Flora McNeil.—The person whose leaflet our correspondent so kindly forwarded to us is a quack of the worst type and we have previously commented upon his methods. Unfortunately, as the law stands nothing can be done to prevent swindling of this class.

Leeds.—The patient is advised to consult her usual medical attendant.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (27th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.) Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (28th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (30th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (26th).—ST. PETER'S HOSPITAL (Henrietta-street, Covent Garden).—3.30 P.M. Mr. P. J. Freyer: Surgical Diseases of the Kidneys.

SATURDAY (30th).—ST. PETER'S HOSPITAL (Henrietta-street, Covent Garden).—2.30 P.M. Mr. J. W. Thomson-Walker: Diagnosis in Urinary Disease.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1904, which was completed with the issue of June 25th, and the Title-page to the Volume, were given in THE LANCET of July 2nd.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1904 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, July 21st, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
July 15	29·89	S.W.	...	134	85	66	66	72	Cloudy
,, 16	30·03	S.W.	...	130	82	63	64	69	Cloudy
,, 17	30·18	S.E.	...	128	87	62	64	72	Hazy
,, 18	30·26	S.E.	...	122	78	60	61	68	Fine
,, 19	30·10	S.E.	...	120	77	59	60	67	Cloudy
,, 20	29·91	S.	0·02	121	78	60	61	66	Cloudy
,, 21	29·97	W.	...	126	77	59	61	67	Hazy

During the week marked copies of the following newspapers have been received:—*Bradford Times, Worthing Mercury, Port of Spain Gazette, Hertfordshire Mercury, Westminster Gazette, Daily News, Hyde Reporter, Daily Chronicle, Reading Mercury, Local Government Chronicle, Liverpool Daily Post, Aberdeen Free Press, Ipswich Times, Coventry Herald, Windsor and Eton Express, Cardiff News, Surrey Advertiser, Birmingham Daily Mail, Scientific American (New York), &c.*

Communications, Letters, &c., have been received from—

A.—Mr. S. E. Atkins, Hatherleigh; Messrs. Andrus and Andrus, Lond.; Sister Agnes, Lond.; Ayr District Asylum, Medical Superintendent of; A. W.; Dr. J. H. Abram, Liverpool; Messrs. Allen and Hanburys, Lond.

B.—T. B. Browne, Ltd., Lond.; Dr. A. H. Burgess, Manchester; Mr. G. Bannerman, Lond.; British Druggists, Ltd., Lond.; Mr. W. H. Beach, Bridgnorth; Messrs. R. and J. Beck, Lond.; Sir William Broadbent, Bart.; Mr. W. C. Benedict, Lond.; Mr. W. N. Brown, Leeds; Dr. H. Byk, Berlin; Sir Edward Buck, K.C.S.I.; Mr. C. L. Bedford, Lond.; Birmingham University, Secretary of; Brecon and Radnor Asylum, Talgarth, Medical Superintendent of; B. M., Bath; Brax, Ltd., Needham Market; Dr. J. L. Bunch, Boxford.

C.—Dr. C. E. Cooper, Ivybridge; Cheltenham General Hospital, Secretary of; Cambridge Scientific Instrument Co., Cambridge; Mr. A. Strauss Collin, Lond.; Mrs. Cornwall, Lond.

D.—Mr. Elgar Down, Stoke; Duryea Co., Coventry; Mr. A. H. Payon Dawnay, Lond.; Messrs. G. L. Daube and Co., Frankfurt; Dr. T. Domela, Mürren; Mr. E. Darke, Lond.; Messrs. H. Dawson and Co., Lond.; Major C. Donovan, I.M.S.; Dr. H. Day, Exeter; Dr. C. Dukes, Rugby; Messrs. Davis and Ornstien, Lond.

E.—Messrs. Eason and Son, Dublin; Messrs. Empson and Co., Lond.

F.—Messrs. Farmer and Sons, Lond.; Dr. C. B. Fox, Ilfracombe.

G.—Mr. F. Griffiths, Lond.; Captain M. Golusky, Lond.; Messrs. Gale and Co., Lond.; Surgeon R. T. Gilmore, R.N., Malta; Dr. H. M. W. Gray, Aberdeen.

H.—Mr. J. Hutchinson, Lond.; Dr. L. K. Herschel, Bordighera; Messrs. Hampton and Sons, Lond.

I.—Incorporated Society of Trained Masseuses, Lond.; I. M. H.

J.—Messrs. Joest, Van Heel, and Co., Lond.; Mr. F. B. Jessett, Lond.

K.—Mr. A. T. Kitson, Folkestone; Mr. S. Knaggs, Huddersfield; Messrs. R. A. Knight and Co., Lond.; Messrs. D. J. Keymer and Co., Lond.

L.—Liverpool University (Medical Faculty), Dean of.

M.—Dr. J. J. Macan, Lond.; Mr. E. Merck, Darmstadt; M. V.; Maltine Manufacturing Co., Lond.; Mr. J. P. Modi, Ahmedabad, India; Medical Supply Association, Lond.; Mayor of Leamington, Leamington; Dr. W. Murrell, Lond.; Mr. R. McQueen, Lond.

N.—Natal, Health Officer of, Pietermaritzburg; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

O.—Dr. T. Oliver, Newcastle-on-Tyne; Dr. J. J. O'Shea, Evere-lez-Bruxelles; Mr. C. Ormerod, Burgess Hill.

P.—Dr. W. A. Potts, Edgbaston; Dr. R. W. C. Pierce, Guildford; Mr. Y. J. Pentland, Edinburgh; Mr. J. B. Parkins, Leighton Buzzard; Messrs. Peel, Watson, and Co., Manchester; Messrs. Peacock and Hadley, Lond.; Mr. J. Phillips, Godreaman.

R.—Royal Albert Hospital, Devonport, Secretary of; Rotherham Hospital, Secretary of; Messrs. E. J. Reid and Co., Lond.; R. G.

S.—Mr. Spencer, Tavistock; Dr. E. Stewart, East Grinstead; Messrs. T. G. Scott and Son, Lond.; Dr. St. Serkowski, Lodz; Dr. G. F. Still, Lond.; Shillelagh Union, Clerk of; Dr. A. Stengel, Philadelphia; Messrs. Storey and Co., Leeds; Messrs. Salt and Son, Birmingham; Sir James Sawyer, Birmingham; Scholastic, Clerical, &c., Association, Lond.; Dr. R. Saundby, Birmingham; Mr. C. H. Sers, Brighton.

U.—United Press Association, Lond.

V.—Voyages D'Etudes Médicales, Paris.

W.—Dr. W. Williams, Cardiff; West Ham Hospital, Secretary of; Wyleys, Ltd., Coventry; Dr. J. Wallace, Strathpeffer; Mr. A. V. Wagner, Chemnitz; W. W.; Mr. C. Wallace, Lond.; Mr. R. L. Wason; Messrs. H. Wilson and Son, Lond.; Whitehaven and West Cumberland Infirmary; Mr. P. W. Walker, Birmingham; Messrs. A. J. ilson and Co., Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. F. C. Angear, Chatham; A. P. M.; A. H. S.; A. V. H.; A. P.; A. C.

B.—Mr. N. Bletchly, Gloucester; Messrs. B. Brown and Son, Huddersfield; Mr. T. H. Brocklehurst, Milton Abbas; Bradford Union, Clerk of; Mr. G. S. Bigg, Lond.; Dr. S. H. Belfrage, Lond.; Mr. C. E. Brettingham, Ilchester; Mr. J. Bird, Basingstoke; Mr. R. H. Bookey, Bray; Berrow's Worcester Journal Co., Secretary of.

C.—Mr. J. B. Cameron, Lond.; Messrs. Cassell and Co., Lond.; Mr. C. E. Cowen, Cala, Cape Colony; Mr. H. B. Carhill, Cambridge; Dr. K. Campbell, Ebbw Vale; C. J. H.; C. W.

D.—Mr. J. T. Davenport, Lond.; Mr. F. Davidson, Lond.; Dr. J. Don, Steytlerville; Derbyshire Royal Infirmary, Secretary of; Dr. W. C. Daniel, Epsom; Mr. R. A. Delaney, Wolston; Messrs. Dowie and Marshall, Lond.

F.—Dr. L. Freeland, Snodland; Miss Friend, Teignmouth; Mr. James Farr, Lond.; F. B. T.; F. H. C.; Dr. A. W. Fuller, Lond.

G.—Mr. H. J. Godwin, Winchester; Dr. O. A. Gordon, Brooklyn, U.S.A.; Messrs. W. Green and Sons, Edinburgh; Dr. W. S. Griffith, Milford Haven; G. S.; Mr. E. Gray, Puckeridge.

H.—Dr. Holding, Aldeburgh; Mr. W. Handcock, Bradford; Mr. T. Holland, Lond.; Messrs. P. Harris and Co., Birmingham; Dr. J. Hair, Brinklow; Mr. Piers Hatton, Higher Broughton; Mr. W. Hughes, Carnarvon; Mr. W. Hughes, Pwllheli; Dr. R. Hutchison, Lond.; Messrs. Hastings Bros., Lond.; Messrs Hogg and Son, Lond; Dr. A. G. Heron, Dromara; Mr. J. Heywood, Manchester; Mr. D. J. Higgins, Clonmel; Hastings, St. Leonards, &c., Hospital, Secretary of; H. V. K.

I.—International Plasmon, Lond.

J.—Mr. G. D. Johnston, Vancouver; J. R. C.; J. N.; J. W. E.; Jamkhandi, India, Civil Medical Officer of; Mr. E. O. Jones, Acrefair; Mr. Y. M. Jones Humphreys, Cemmaes.

K.—Dr. C. F. Knight, Edinburgh Dr. H. Kerr, Aylesbury.

L.—Mr. H. C. Linden, Clifton; Mr. E. Leach, Witheridge; Leeds General Infirmary, Secretary of; London Association of Nurses, Secretary of; Mr. H. K. Lewis, Lond.; Mr. Lockwood, Mundesley; Lister Institute, Lond., Secretary of.

M.—Mr. G. B. McKean, Lond.; "Mac," Lond.; Mr. E. Merck, Lond.; Messrs. T. M. Mackenzie and Co., Invergordon; Mr. T. E. B. Mevler, Lond.; Dr. G. Metcalfe, Spennymoor; Mr. L. C. Martin, Woolston; Mrs. McKeown, Newcastle; Dr. W. McColl, Painswick; Mr. W. Morgan, Mossley; M. S. M. D.; Mr. W. Metland, Sheffield; Dr. J. F. D. Macava, Durness.

N.—Messrs. Nicolay and Co., Lond.

O.—Mr. C. Oldfield, Leeds; Dr. L. O'Clery, Clonakilty; Dr. J. R. O'Brien, Lwestoft.

P.—Mr. L. K. Perot, Philadelphia; Mr. J. Pond, Norwich.

R.—Dr. H. R. Marshall, Aberdeen; Royal Institute of Public Health, Lond.; Messrs. Raimes and Co., York; R. C.; Mr. R. Redpath, Newcastle-on-Tyne; R. L. W.; Mr. G. A. Roberts, Tunbridge Wells.

S.—Mr. H. Sturmey, Coventry; Smedley's Hydro, Matlock, Manager of; Stockton and Thornaby Hospital, Secretary of; S. M. C.; Mr. W. H. Smyth, Lond.

T.—Dr. G. Thornton, Pretoria; Tottenham Hospital, Secretary of; Teignmouth Hospital, Secretary of; Mr. S. Thrower, Lond.; Messrs. C. Tayler and Co., Lond.

V.—Mr. W. Van Praagh, Lond.; Dr. J. de Villiers, Vrede, South Africa.

W.—Mr. S. Wand, Leicester; W. C.; W. C. H.; W. A. W.; W. P. K.; Mr. J. F. Walker, Swallowfield; Wolverhampton, &c., Hospital, Secretary of; W. B. R.; W. G. D.; Messrs. Watt, Donald, and Co., Dundee; Mr. J. Ward, Lond.; Mr. J. Walters, Bedlinog; Mr. J. Williams, Bristol.

X.—X. Y., Lond.

EVERY FRIDAY.

THE LANCET.

PRICE SEVENPENCE.

SUBSCRIPTION, POST FREE.

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General Announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6

Quarter Page, £1 10s. Half a Page, £2 15s. An Entire Page, £5 5s.

Terms for Position Pages and Serial Insertions on application.

An original and novel feature of "THE LANCET General Advertiser" is a Special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 31, Rue Bapte, Asnieres, Paris